THE

Philosophical Review

October 1958

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Edited by the Sage School of Philosophy, Cornell University

THE PHILOSOPHICAL REVIEW

A Quarterly Journal

VOLUME LXVII, NUMBER 4, WHOLE NUMBER 384

EDITED BY the Faculty of the Sage School of Philosophy in Cornell University: Max Black, Stuart M. Brown, Jr., E. A. Burtt, G. Watts Cunningham (Emeritus), Keith S. Donnellan, John H. Hick, Norman Malcolm, John Rawls, George H. Sabine (Emeritus), David Sachs, Frank N. Sibley, and Harold R. Smart.

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Second-class mail privileges authorized at Ithaca, New York.

PRINTED IN BELGIUM, BY THE ST-CATHERINE PRESS LTD.

FREGE'S HIDDEN NOMINALISM*

SOME philosophical pieces are like symphonies, others like quartets. This one is merely an ontological theme with variations. After I have introduced the theme, it will be seen that *Exemplification versus Mapping* is a very good name for it. The phrase does not signify, though, except to one already familiar with the theme. That is why I did not choose it as a title. All but the last of the variations are comments on Frege's ontology, though as such they are highly selective.[1] This is one reason for the title I chose. The other is that I hope to draw expository advantage from its shock value.

I

In ontological discourse two clusters of very ordinary words are used philosophically. First of all, therefore, I shall state how I propose to handle these words. One cluster contains 'thing', 'object', 'entity', 'existent'. When I do not wish to indicate anybody's ontological commitment, I use *entity*. When I wish to speak of what philosophers, speaking philosophically, assert to "exist," I use *existent*. Frege uses both 'object' and 'function' philosophically; and he holds, either explicitly or very nearly so, that every entity (not, existent!) is either an object or a function.[2] The other cluster contains 'naming', 'denoting', 'designating', 'referring'. Nor are the philosophical uses of the two clusters independent. Some philosophers, for instance, maintain that an existent is what is or could be named (denoted, designated) by a word or expression. When I wish to speak without indicating

* I have profited from discussions with Mr. Reinhardt Grossmann, who will elaborate some of the points in this paper as well as some related ones in his doctoral dissertation.

[1] An excellent detailed exposition may be found in R. Wells, "Frege's Ontology," *Rev. Metaphys.*, IV (1957), 537-573. References to this study are by page number, preceded by the letter *W*.

[2] In rendering Frege's terms I follow the well-known *Translations from the Philosophical Writings of Gottlob Frege* by M. Black and P. Geach (Oxford, 1952). References to this volume are by page number, preceded by the letter *F*.

ontological commitment, I avoid all these verbs and borrow instead Frege's *standing for*. If they followed this use, the philosophers just mentioned could say that a name is a word or expression which stands for an existent.

Consider 'This is green'. On one occasion, 'this' may stand for an apple; 'green', for its color. Some hold that, on another occasion, the two words could stand for what they call a sensum and one of its qualities, respectively. Others disagree. The difference makes no difference for my purpose. So I shall entirely ignore it in calling the sort of thing 'this' and 'green' stand for, on all occasions, an *individual* and a *character*, respectively. Also, I shall in this essay use the two words without ontological commitment even though, in the case of 'individual', that is admittedly unusual. For Frege, individuals are one kind of object; characters, one kind of function. But there are in his world still other kinds of objects and of functions.

Some ontologists, including Russell (and myself) though not Frege, make much of a distinction between simple and complex characters. For what I am about it is irrelevant, so I shall disregard it. There is also the distinction between types of characters and functions. Both Frege and Russell pay attention to it. But again, with one glancing exception, it is irrelevant for what I am about, so I shall virtually ignore it. This shows how selective I shall be in my remarks about Frege.

Even in ontological discourse the terms *realism* and *nominalism* are used in two ways; once strictly, once broadly. The ontologist's first business is to list all kinds of existents (not, all existents). If he discerns many kinds, perhaps too many, one calls him a realist. If he lists but few, perhaps too few, one calls him a nominalist. This is the broad use. In the strict sense, an ontologist is a realist if he counts characters, or at least some characters (for example, simple ones), as a kind of existent. A nominalist in the strict sense holds, conversely, that no characters are existents. In this essay, unless there be a qualification to the contrary, both terms are always used strictly.

Two things about Frege are beyond reasonable doubt. Had he used 'existent' as I do (as far as I know he did not use it at all), he would have agreed that everything he calls an object is an

existent. This is the first thing. Of objects there are in his world many kinds. Nor are the distinctions among them "ordinary," like that between cats and dogs. They are even more sweeping than that between physical and phenomenal objects, which surely is sweeping enough and, according to some, anything but ordinary. His distinctions are so sweeping indeed that, if the word is to have any meaning at all, one cannot but call them ontological. This is the second thing beyond reasonable doubt. Specifically, Frege distinguishes (at least) the following (ontological) kinds (of objects): individuals, numbers, truth values, value ranges (classes of objects), senses, propositions (thoughts), concept correlates.[3] Many philosophers think that with the sole exception of individuals all these kinds are odd. Or, to say the same thing differently, they refuse to consider the odd kinds of entities as existents. Still differently, these philosophers (including myself) reject Frege's exaggerated realism (broad sense). It is not my purpose to rehearse their arguments, or to improve on them, or to invent new ones; even though I shall permit myself, *en passant*, to call attention to two oddities about truth values. As far as Frege is concerned, my purpose is rather to give some reasons for my belief that, for all his exuberant realism in the broad sense, he was in the strict sense at least implicitly a nominalist. My primary concern, though, is neither biographical nor textual. What I shall really argue, therefore, is that the structure of Frege's ontology though not, as will transpire, of Church's emendation of it,[4] is nominalistic.

Everything said so far is merely preliminary. I shall proceed as follows. In the next section the theme is introduced and used to exhibit what I take to be the root of Frege's nominalism. In the third section I shall show that in one case this very nominalism forces upon Frege that multiplication of entities (or rather of existents) which is so characteristic of his ontology. In the fourth section I shall show that what is, broadly speaking, the most serious as well as the most obvious intrinsic flaw of the system is but another consequence of its author's hidden nominalism. I say intrinsic because this flaw is of course not that exuberant

[3] As far as I know, the term is Wells's.

[4] A. Church, *Introduction to Mathematical Logic* (Princeton, 1957).

realism (broad sense) which, as I said, I shall not question except once and incidentally. In the last section I shall vary my theme, very briefly and very sketchily, by sounding it as a background for the siren songs of a more recent nominalism.

II

Where one arrives depends in part on where he starts. A philosopher's starting point depends in part on his basic paradigm. Frege's is very different from the realist's. My theme builds on this difference or, rather, contrast. I present first the realist, because it helps to bring out the contrast more forcefully. Some realists, including myself, propose an explication of the philosophical use of 'exist' upon which all individuals and (some of) their characters but no higher characters are existents.[5] The realist I present is of this sort. My case does not depend on the limitation. But again, it helps to bring out the theme more clearly by freeing it from some bywork that otherwise would have to be introduced.

The realist starts from individuals and their characters. That is, he starts from entities Frege calls objects (and from their characters), though not from those objects which with Frege's critics I called odd. 'Peter is blond' may thus serve as the realist's paradigm. What claims does it suggest to him? What do and what don't these claims imply? What reasons can he give for them? I shall take up the three questions in this order.

First. 'Peter' and 'blond' both stand for existents. Generally, both individuals and characters are existents. This is one major claim. Many realists, including myself, also hold that every existent is either an individual or a character; but for the purpose at hand that does not matter. What 'Peter is blond' stands for comes about if two existents, one of each kind, enter into a certain "relation," or, as I would rather say, nexus. This nexus the realist calls *exemplification*. Obviously it is a very fundamental feature of his world. This is another major claim. To see that it

[5] See "Elementarism," *J. Phil. and Phen. Res.*, XVIII (1957), 107-114.

is not independent of the first, notice that to say of something that it does or may enter into a nexus is to presuppose that it exists. Notice also that when I spoke of a sentence "standing for" something, I quite deliberately paid with clumsiness for the agreed-upon neutrality of the phrase.

Second. (a) An individual may or may not exemplify a character. To say that a character exemplifies an individual is nonsense. The very nexus between the two kinds is thus asymmetrical. This alone shows that individuals and characters are not alike *in all respects* which concern the ontologist. Nor do the realist's claims imply that they are. Obviously not, I should say. For, if they were, what point would there be in distinguishing between them? (b) In the paradigm, the copula or, as I prefer to say, the predicative 'is' stands for exemplification. In a much larger number of cases, to say the least, the verbal image of this nexus between things is predication, that is, the grammatical relation between subject and predicate. That follows from the realist's claims.

Third. An articulate realist has of course many reasons for the position he takes. Fortunately they do not all matter for my purpose. What matters is that every time he discovers *some respect* in which individuals and characters are alike, he has discovered *a* reason. I shall state two such reasons, the two which I think carry most weight. (a) Just as we are never presented with an individual that is not qualitied, that is, does not exemplify a character, so we are never presented with a character that is not exemplified by some individual with which we are also presented. Notice that I speak of entities being presented to us, that is, as one says, epistemologically. Had I not promised to keep out the distinction between simple and complex characters and had I limited myself to the former, I could have spoken ontologically: Just as there is no individual that is not qualitied, so there is no character that is not exemplified. This is one fundamental likeness. (b) Consider the three entities that 'Peter', 'blond', and 'Peter is blond' stand for. The differences among them are ontologically significant. With that Frege agrees. For, if he did not, he would not, as an ontologist, either distinguish concepts

from objects or set aside truth values as a kind of object. The realist says the same thing differently. Neither an individual nor a character is the kind of entity (notice the noncommittal word!) a sentence stands for. This is a second likeness. (b′) The reader is assumed to be familiar with Frege's distinction between saturated and unsaturated expressions. 'Blond' or, as he would really have to say, 'is blond', is unsaturated. 'Peter' is saturated. (So is, very importantly, 'Peter is blond'; but that does not yet enter into my argument.) Primarily at least, the dichotomy is between expressions, not between entities. If one wants to apply it to entities, one must specify what in this case the two terms are to mean. For instance, one may propose "Individuals and characters are equally unsaturated" as an alternative way of stating the second fundamental likeness. An unsophisticated realist may object to this on the ground that, since individuals and characters are both existents, they really are both equally saturated. We know that he merely proposes another meaning for one(!) of the two terms as applied to entities. But his proposal has the merit of showing not only that this application serves no purpose but also the dangers that beset it.[6]

The realist's gambit has a further consequence, which gives rise to an objection, which in turn leads to a clarification. It will pay later if in introducing this matter I change the paradigm to 'Peter is *a* boy'. The objector points out that one who takes the predicative 'is' to stand for exemplification ought to admit that the paradigm and the sentence 'Peter exemplifies *the* character of being a boy' stand for one and the same entity. After a fashion, the realist does admit that. He even admits it for the sentence 'The individual (object) Peter exemplifies the character (concept) of being a boy'; and, if he used the two words in parentheses, he would also admit it for the further variations they make possible. Now the objector taunts the realist with a Bradleyan regress. It seems, he says, that in order to grasp what exemplification is, he must first grasp what it means for the (relational) character of being exemplified to be exemplified. The realist answers as follows. Exemplification is a very peculiar character. (That is

[6] See "Propositional Functions," *Analysis*, XVII (1956), 43-48.

why I called it a nexus and only once, in quotation marks, a relation.) Its peculiarity is the same as that of such "characters" as being an individual or a character. To be an individual, for instance, is not to be of an "ordinary" kind, as is being a cat or a dog, but to be the sort of entity expressions of a certain grammatical kind stand for. The expressions for these peculiar kinds are therefore all expendable and the several alternatives for the paradigm need not be considered unless one speaks in a language containing them about another language and what its expressions stand for. I need not on this occasion endorse this answer. Nor would I on any occasion endorse it in this crude form. (That is why I said the realist admits what I made him admit "after a fashion.") I merely mention this answer because, being familiar and thus permitting me to communicate quickly about what does not matter for what I am about, it helps me to prepare the ground for what does. So much for the realist.

Frege starts from numbers and their functions. 'x^2' may thus serve as his paradigm. That numbers are objects and therefore existents he takes for granted. Questionable as that is, I need not question it. My concern is with functions, mathematical and otherwise. The current mathematical name for the crucial idea is *mapping*. The square function, for instance, maps each number onto another, namely its square. Generally, given two classes of entities which may but need not coincide or overlap, a function is a mapping rule, mapping each member of one of the two classes upon one (and, in the paradigmatic case, only one) member of the other. Let me now for a moment speak as a poet might, using some very loaded words very freely. A rule is a thing totally different from the things to which it applies. A mapping rule, in particular, is a thing much more shadowy, much less real, less palpable, less substantial than the things mapped and mapped upon. This more and these less, rather than the questionable status of numbers, is the heart of the matter. So I shall try to state it, not as a poet but as a philosopher might.

Numbers and their functions differ from each other in the two fundamental respects in which, as we saw, individuals and characters are alike. (a) Just as there is no unexemplified character, so there is no unqualitied individual. But there are of

course numbers whether or not they be either arguments or values of functions. (b) The two notions of an individual and of a character, containing or presupposing each other to exactly the same extent, are equally "saturated" or "unsaturated." The notion of a number neither contains nor presupposes that of a function. The latter, however, contains and presupposes that of the two ranges (of numbers). (c) The realist's basic paradigm involves two entities, an individual and a (nonrelational) character. So does a function of one variable, which is Frege's basic paradigm. Or, rather, this is so after an argument has been chosen and the corresponding value computed by means of the function. The need for this additional step, which Frege never tires of emphasizing, increases the "ontological distance" between objects and functions. In Frege's paradigm, moreover, though not in the realist's, the two existents involved, the argument and "its" value, are existents of the same kind. This further increases the impression of disparity between them and the entity which is the function.

Still another circumstance subtly undermines the ontological status of functions. What mathematicians say about the latter often has a *subjective* ring. As they speak, it is they who do the mapping or, as it is often put, establish the correlation. 'Rule' itself, in most of its uses, has the same ring or tinge. This is an occasion for comment. *First.* Dangerous as that subjective ring or tinge may be philosophically, it is of course quite harmless as long as the mathematicians attend to their own business. What makes it even more harmless is that in fact mathematicians are not at all busy establishing or making functions. The vast bulk of their work consists in demonstrating what further properties a function has, assuming that it has some others. *Second.* The realist pulls the fangs of this potentially dangerous talk by construing functional expressions as, in the *Principia* sense, indefinite descriptions,[7] either mathematical or otherwise (the square of x, the

[7] '*The* father of x' is in this sense an indefinite description; '*a* son of Peter' is not, irrespective of how many sons, if any, Peter has. A. J. Ayer's "Individuals," reprinted in his *Philosophical Essays* (New York, 1954), makes one wonder whether he appreciates the distinction. What he calls indefinite descriptions seem to be predicative expressions which *happen* to be true for several subjects.

father of x.) Descriptions in turn contain expressions standing for characters. And there is nothing subjective about characters (including, of course, relations), least of all in the case of numbers. As Russell put it, in a justly celebrated passage about the order relation, "we can no more 'arrange' the natural numbers than we can the starry heavens."[8] Notice, though, that even if starting from numbers in one sense, one who accepts this clarification starts in another sense from the realist's paradigm. *Third.* I spoke quite deliberately of the subjective tinge or blur from which some of the mathematicians' phrases suffer. My purpose was to give an objector his opportunity. Frege, this objector reminds us, insists over and over again that not only his odd objects but also functions, though they are not objects, are yet *objective.* I know that this is one of his guiding ideas. And I admire the steadfastness with which he wielded it as a weapon against the psychologism rampant in the Germany of his day. One may appreciate all this, as of course I do, and yet consistently hold, as I also do, that while within his system at least Frege succeeded in securing full ontological status for his odd objects, he did not so succeed, even within the system, in the case of functions. That is what I mean by his hidden nominalism. Notice that I call it hidden or implicit. Remember, too, that in this section I merely undertook to state it and to trace it to what I take to be its root, namely, the contrast between exemplification and mapping. The evidence will be found in the next two sections. But I am not quite done with the business at hand.

Nominalism is a thesis about characters. Nothing will be lost if we limit ourselves to nonrelational ones. Frege calls them *concepts.* What, then, does he have to say about concepts? The realist, we just saw, construes functions in terms of characters (concepts). Frege, proceeding in the opposite direction, as it were, construes concepts as a kind of function. In this way, the nominalism I have shown to be implicit in any analysis that starts from mapping is spread to concepts (characters). This is the point. Or, if you please, this is the last bar of my theme.

Frege's execution of the idea is familiar. If 'Peter is blond' is to

[8] B. Russell, *Introduction to Mathematical Philosophy*, p. 30 of the 1919 edition. The whole page repays reading in this context.

be construed in analogy to 'the square of 3', then we must look for an object that goes with Peter as the value 9 goes with the argument 3. This object is the truth value of the sentence. This is one motive for Frege's "creation" of the two odd objects T and F. It fits nicely with another. He wants every saturated expression to stand for an object; sentences are saturated expressions; so the truth value of a sentence can serve as the object it stands for. Though Frege had still other motives for the "reification" of T and F, structurally these two are undoubtedly the most important. I should like to suggest that the first, that is, the need to make good the precarious analogy between concepts and functions, goes even deeper than the second.

I turn from things to words. The alleged analogy between characters and functions is not reflected in our language. If it were, we would have to say 'blond *of* Peter', just as we say '*the* square *of* 3', and not, as we do, 'Peter *is* blond'. (The reader who can anticipate the sequel will be struck by the irony of our propensity, if we consider such verbal violence at all, to say '*the* blond(-ness) of Peter'.) The culprit in the case is the predicative 'is'. From where the realist stands, we remember, it reflects very nicely the nexus of exemplification and is *a*, if not perhaps *the*, fundamental use of 'is'.[9] For Frege it is but a clumsily disguised 'of'. In 'Peter *is* the father of John', on the other hand, as in '$3^2 = 9$' and, alas, in 'Peter is blond = T', 'is' reflects very nicely, from where Frege stands, what it is used to speak about. To express identity thus becomes *the* or at least *a* fundamental use of 'is'. In the last section I shall give some reasons why I believe that all nominalists are forced to consider it, more or less covertly, *the* fundamental use of 'is'.

This is the place to call attention to two oddities about truth values. First, let '*P*' stand for a sentence and consider the series

$$P = \mathrm{T}, \quad (P = \mathrm{T}) = \mathrm{T}, \quad [(P = \mathrm{T}) = \mathrm{T}] = \mathrm{T}, \quad \ldots.$$

If *P* is true, so are all members of the series. If the arithmetical analogue were to hold, the members of the series

$$3^2 = 9, \quad (3^2 = 9) = 9, \quad [(3^2 = 9) = 9] = 9, \quad \ldots.$$

[9] It becomes *the* fundamental use if the Leibniz-Russell explication of identity is considered adequate.

would also all be true. Yet they are not even well formed. This is odd. Second, senses and propositions (thoughts) are in the system two kinds of objects, kindred in that a proposition is, as it were, the sense of a sentence. This is familiar.[10] Now there is a passage (*F* 64) in which I take Frege to assert, as I believe consistently he must, that '*P*' and '*P* = T' have (express) the same sense. If the arithmetical analogue held, so would therefore '3^2' and '$3^2 = 9$'. Yet the former denotes a number, the second, T. Thus they do not even denote the same kind of object. This, too, is odd. If one has already accepted the system, he will probably not boggle at such oddities. But if he hasn't, they may make him even more averse to the reification of T and F and to what, as we saw, is at the bottom of it all, Frege's analysis of exemplification in terms of mapping.

III

A nodding acquaintance with Frege's work, or even with what is currently being said about it, leaves two impressions. The first is of the multiplication of entities due to his distinction between *reference* and *sense*, that is, between the objects *denoted* and the objects *expressed* by such saturated expressions as, say, 'the Morning Star' and 'Peter is blond'. The second impression is that *the* main intellectual motive for the multiplication is the hope that, by means of it, it will be possible to conquer the difficulties that arise in intensional contexts, that is, in contexts mentioning either modalities or propositional attitudes, such as believing, knowing, and so on. Considering the sytem as a whole, that certainly is *a* motive. But if the two impressions are as widely spread as I believe them to be, then it is probably worth pointing out that Frege was first forced into that business of multiplying entities by the very logic of his nominalism in a case much simpler and more fundamental, which has nothing whatsoever to do with either modalities or propositional attitudes. This is the case of *classes* (extensions, value ranges). Corresponding to each concept, which according to him is not an object and (if I am right) at

[10] See Sections III and IV.

least implicitly not an existent, Frege "creates" another entity, which according to him is an object, namely, the class of all objects which, as he says, fall under the concept.[11] In this section I shall give two reasons why his nominalism, made explicit, forces him to do just that. Such reasons, if sound, are of course the kind of structural evidence one must accumulate in order to establish that the system is, at least implicitly, nominalistic.

Consider the two functional expressions 'x^2' and '$x^2 - x + x$' and the equation '$x^2 = x^2 - x + x$'. After a fashion, we all know what the equation stands for. Practicing mathematicians, without giving the matter much thought, say either that the two functions have the same extension, that is, the class of ordered pairs [(1,1), (2,4), . . .], or, alternatively, that the two functions are equal (the same, identical). Strictly speaking, from where Frege stands, the second alternative makes no sense. A function is a mapping rule. Following one of the two rules mentioned, one obtains the value by squaring the argument. Following the other, one first squares the argument, then subtracts it from the square, then adds it to the intermediate result. Considered as rules, the two functions are thus not the same. Generally, two rules are never the same, in a sense both strict and intelligible, unless they are, as one says, two tokens of the same type. All one can mean by calling them so is, therefore, that they yield the same result (have the same extension). I conclude that, if he wants to be consistent, Frege cannot, as in fact he does not, specify conditions of identity for concepts and functions. Or, rather, he would have to hold that an assertion of identity between two (concepts or) functions is true if and only if the two expressions mentioned are different tokens of the same type. Of this more later. For the moment we notice that had he stopped at this point, Frege could not have preserved what as a mathematician he surely wanted to preserve, namely, the equation '$x^2 = x^2 - x + x$' and the truism for which it stands. His way out is to interpret it as an identity not between the two functions but, rather, between their extensions. (Technically, he introduces

[11] The limitation to first-level concepts which this formulation entails does not affect my purpose.

a special notation for the latter and rewrites the equation as a statement of identity between them.) The *possibility* of this interpretation he thinks is *indemonstrable*. So he appeals to a *fundamental law of logic*. The words and the phrase italicized are his (*F* 26). This is the first reason I undertook to adduce. It shows how the nominalism implicit in any analysis that starts from mapping creates the need for the new entities. The second reason will show that they must be objects.

Frege does not specify the fundamental law of logic to which he appeals. What then is it? Does he use the phrase merely to dignify what is done in this case? Or is there a general principle involved? Even though his words at this place seem to suggest the first alternative, the second is I believe the right one. Consider the following three propositions. 1. To be a name and to be an expression standing for an existent is one and the same thing. 2. For a statement of identity, '$\alpha = \beta$', to be true, 'α' and 'β' must denote existents. 3. For '$\alpha = \beta$' to be a statement (to be well-formed, or to be meaningful), 'α' and 'β' must denote (or purport to denote) existents. Obviously, 3 is stronger than 2. Many ontologists endorse either 2 or 3, depending on the stand they take on issues which do not concern us. I would not even endorse 2.[12] That, however, is beside the point. The point is that either 1 and 3 or, perhaps, 1 and 2 follow deductively from the way many ontologists tended and still tend to use 'existent', 'name', and 'identity'. Add now, as a fourth proposition, that every saturated expression is a name; in the first three propositions replace 'existent' by 'object', and you obtain four principles, or four aspects of one principle, which underlie, either explicitly or very nearly so, all of Frege's analysis. This, I believe, is quite uncontroversial. Assume now that this principle is the fundamental law of logic to which Frege appealed. It follows that extensions (value ranges, classes) must be objects. This is the second reason I promised to adduce. Moreover, I have made it plausible, to say the least, that Frege uses 'object' as many ontologists use 'existent'. Concepts and functions in general, we remember, though

[12] To this point I hope to return on another occasion. See "Sameness, Meaning, and Identity," to appear in the *Proceedings of the Twelfth International Congress of Philosophy* (Venice, 1958).

objective, are not objects. It follows that, at least implicitly, the system is nominalistic. This concludes the main argument of the section. I proceed to four comments.

First. Let a_1, a_2, ... be all the objects that are blond; b_1, b_2, ... all those that are not. The class one ordinarily associates with the character blond is that of the $a, [a_1, a_2, \ldots .]$. It can be argued that the class Frege associates with the concept blond is that of all ordered pairs (*a*, T) *and* (*b*, F). If so, in his world what sort of object is an ordered pair of objects? Probing deeply in some such directions, one is eventually led to the Russell paradox and the question as to what, if anything, Frege can do about it. I realize all that. Clearly, these subtleties do not matter for what I am about. That is why I proceeded as I did. But it may hurt my thesis if I appear ignorant where I am merely selective. That is why I mention the matter.

Second. Frege (*F* 50) feels the need to distinguish "the relation of an object to a first-level concept that it falls under . . . from the (admittedly similar) relation of a first-level concept to a second-level concept." So he proposes that in the former case we speak of falling *under*, in the latter of falling *within*. His purpose, he tells us, is to preserve the distinction of concept and object "with all its sharpness" or, as I would put it, to increase the ontological distance between them. Taken by itself, the passage may be read as merely a plea for pervasive type distinctions. In context it provides subsidiary evidence for my thesis.

Third. An objector might argue as follows: "True, Frege does not specify conditions of identity for functions. But, then, neither does he specify such conditions or criteria for senses. (I follow you in using 'sense' for propositions (thoughts) as well as for what is expressed by nonsentential saturated expressions such as 'the Morning Star'.) Yet senses are objects. This greatly weakens your argument." Wells (*W* 544) shrewdly anticipates part of the answer. Frege, he reminds us, had an additional reason, which does not, or at least not directly, apply to functions, for not specifying criteria for the identity of senses. To grasp this reason, remember that one of Frege's intellectual motives was to solve the problems of intentional contexts. In this enterprise the

reification of senses is merely a first step. The decisive second step is to specify criteria of identity among senses. This second step Frege never took, simply because (or so I believe) he could not think of any that were acceptable to him and did the job. In any case, he examined and rejected two. By one of them, two expressions have (express) the same sense if and only if they are analytically equivalent. This criterion he recognized as too broad. By the other, two expressions have the same sense if and only if they are different tokens of the same type. If we accepted this criterion, logic, he thinks (*F* 46), "would simply be crippled," if only because "all definitions would then have to be rejected as false."[13] However that may be, Frege had an additional reason for not specifying a criterion of identity for senses. This is part of the answer I would give to the objector. For the rest, I would remind him of what was pointed out at the beginning of this section, namely, that its main argument is completely independent of what does or does not hold for senses.

Fourth. Frege, who started from mapping, was forced to reify classes. Does the realist who starts from exemplification find himself similarly compelled? If the answer were no, it would greatly add to the poignancy of my theme. The answer, I believe, is no. However, this is not the place to go into the reasons for that belief. So I shall merely hint at what is rather familiar. Our realist may so explicate the philosophical use of 'exist' that only what undefined terms stand for exists in this very peculiar sense. (This is an issue I promised to keep out of the main argument.) When Russell supported his contention that classes do not exist by defining the expressions standing for them in terms of predicative expressions, he was at least implicitly guided by this explication of 'exist.'[14] A realist who accepts Russell's analysis of the class notion together with the explication of 'exist' it implies or at least suggests need not therefore, like the Fregean nominalist, reify classes. The contrast adds depth to that between mapping and exemplification.

[13] I do not subscribe to the dogma. This, though, is another story. See "Intentionality," in *Semantica* (Archivio di Filosofia, 1955), 177-216; "Elementarism," l.c.; and "Concepts," *Phil. Studies*, VII (1957), 19-27 (jointly with H. Hochberg).

[14] See "Particularity and the New Nominalism," *Methodos*, VI (1954), 131-148.

IV

Consider the phrase 'the concept blond' and the sentence 'The concept blond is a concept'. As Wells points out (*W* 550), one would think that the latter is not only true but truistic. Frege, as he must, disagrees. Like every saturated expression beginning with 'the', the phrase is a name. A name denotes an object (existent). These two principles, we saw, Frege never questions. But a concept is not an object (existent). Hence, the supposed truism is false. Perhaps it is even nonsensical. That leaves two alternatives. One is to declare the sentence expendable. The other is to create a new kind of odd objects. Frege chose the second. The new objects are the *concept correlates*. A concept correlate "represents" its concept. Or it is obtained by "converting" the concept into an object. These are Frege's words. Nor must the correlate of a concept be confused with its extension. Starting with one entity, the concept, which as I argue does not exist, Frege thus ends up with two more which indubitably do exist, namely, the concept's correlate and its extension.

The need for the creation of this further kind of odd object is, to my mind, the most obvious intrinsic flaw of the system *as it stands*. By calling it intrinsic I indicate, as before, that I do not on this occasion wish to challenge the odd kinds merely because to some of us they seem odd. Nor do I call it a flaw merely because this particular reification is patently *ad hoc*. For so is that of the two truth values. My point is that, once the new kind, the concept correlate, has been introduced, one cannot escape answering the question in what relation, or connection—use any word you wish—it stands to the other two, the concept itself and its extension. Yet there is no answer. This is the flaw I have in mind. It is as obvious as it is serious. One cue to its being a flaw is the opacity of the two metaphors, representation and conversion. This is not to say that I blame Frege just for speaking metaphorically. Many philosophers sometimes do, and sometimes it helps. I merely wish to say that these two metaphors do not help me in the least. Nothing comes through.

The way I presented the matter leaves no doubt that the need

for concept correlates is a consequence of what I claim is the implicit nominalism of the system. In this respect there is no difference between concept correlates and classes (extensions). But there is in another. Notice that I spoke of the system "as it stands." In the case of concept correlates, though not of classes, a very slight emendation eliminates the need for their reification as a further kind of objects. I shall next use this circumstance to argue that the nominalism which, if it were explicitly present in the system, would necessitate the reification, actually is present in it, at least implicitly.

Take (α) 'Peter', (β) 'Peter is blond', (γ) 'blond'. They exemplify Frege's three basic grammatical categories. Let the Greek letters stand for these categories. Every α and β expression has a reference and a sense. It denotes the former, expresses the latter. The reference of a β expression is a truth value, its sense a proposition (thought). Senses are objects. Hence they can be named. In the case of the paradigm, their names are 'the sense Peter'[15] and 'the proposition Peter is blond'[16] respectively. Being a name, each of these two expressions has in turn a sense. We have entered upon an infinite regress. Within the system, though, that is no difficulty. Nor does it disturb the lucidity of the pattern. The difficulty is, rather, that the pattern does not apply to the unsaturated expressions γ. There (I limit myself to concepts) it is disturbed by that dangling third entity, the concept correlate.

Assume now that concepts are existents. If so, they can be named and the pattern can be extended as follows. A γ expression, say, 'blond', denotes its extension and expresses its sense, which is the concept itself, which in turn is denoted by 'the concept blond.' With this emendation the same pattern applies to all three categories. Moreover, the need for concept correlates has disappeared.

The emendation is in substance the one Church proposed. With all the respect due to him, it does not seem very far-fetched, at least by hindsight. Nor is it overdoing the respect we owe to Frege's ingenuity to believe that it was not, even by foresight,

[15] Or, as one says rather, *the concept Peter*. It is obvious why I avoid that locution.

[16] Or, in intentional contexts, *that Peter is blond*.

beyond his grasp. Why, then, one must ask, did he not take this almost obvious step? The answer I propose will not come as a surprise. He balked at the one assumption which as I have shown the step implies, namely, that concepts, though not objects, are yet full-fledged existents. This concludes the main argument of the section. I proceed to two comments.

First. Wells reports (*W* 546) Church to have argued as early as 1939, in a paper not generally accessible, that Frege's concepts are full-fledged existents. In other words, he disagreed sharply with my thesis. I am neither surprised nor disturbed. *As emended* by Church, the system is indeed no longer nominalistic in structure. That merely proves that Church is not a nominalist. It proves nothing about the system *as it stands*. I also grant and even insist that the emendation is nearly obvious. That explains why Church did not want to charge his master with what he must have considered a flaw. But it does not explain why Frege himself put up with an obvious and serious flaw rather than take Church's nearly obvious step. My thesis does explain that.

Second. What can the realist do about Frege's problem? To answer, I first state the problem in the way it impressed itself upon Frege. Consider 'Fido is *a* dog'. If 'dog' and 'the concept dog' stood for the same entity, they would have to be interchangeable *salva veritate*. This is another principle Frege never questioned. Yet, 'Fido is *the* concept dog' is nonsense. (Frege, everyone knows, was tremendously and of course quite rightly impressed with the contrast between the definite and the indefinite article. That is why I changed the paradigm.) The concept correlates are an obvious way out of the difficulty. The realist does not need them. Admitting, for the sake of the argument, that 'dog' and 'the concept dog' stand for the same entity, he need not therefore abandon the principle. He merely adds the proviso, which I introduced in Section II, that whenever such a substitution is made, 'exemplifies' must, in the nature of things, be substituted for 'is'. In this way he obtains, quite smoothly, 'Fido exemplifies the concept dog'. The reason the realist finds this answer is that, unlike Frege who starts from mapping, he can do

justice to that fundamental feature of our world from which he starts. Thus we are once more led back to the contrast between mapping and exemplification.

V

Consider 'This is red'. Frege and the realist agree that the demonstrative denotes an existent. By the realist's account, so does the adjective. Frege, we saw, disagrees, at least implicitly. The root of the matter, we also saw, is that he starts from mapping. The inspiration for this alternative to exemplification is mathematical. In this his nominalism is unique. All other varieties I know of—I am tempted to call them the ordinary varieties—operate with the doctrine of *common names*. Or, as I would rather say, there are really only two kinds of nominalism, Frege's and the doctrine of common names. The difference between the two is by no means negligible. Both kinds, though, in addition to being nominalisms, which to my mind is a weakness, share still another weakness. Neither does justice to the predicative 'is', which stands for exemplification. Both, therefore, more or less covertly take identity to be the fundamental meaning of 'is'. In Section II I showed this for Frege. In this section I shall show it for the doctrine of common names, first generally, then by analyzing an essay of Quine's.[17]

Assume that when I said 'This is red' I pointed at an individual, say, a red apple. The demonstrative and the adjective are both names of the apple. The only difference is that while the former is (serves as) a "proper name," the latter is a "common name." A proper name is a label arbitrarily attached to one and only one individual. A common name applies indifferently to each of several individuals, namely, all those sharing a character. This is the doctrine of common names. It runs into an objection and a difficulty.

A common name applies to an individual if and only if that individual has a certain character. Hence it is not an arbitrary

[17] "Identity, Ostension, and Hypostasis," reprinted in *From a Logical Point of View* (Cambridge, Mass., 1953). References to this volume are by page number, preceded by the letter *Q*.

label, in the sense in which a proper name is one, unless it be, as the realist insists and the nominalist denies, the name or label of the character itself. What, then, the realist asks the defender of the doctrine, is there "objectively" in or about each of the several individuals by virtue of which the common name is properly applied to each of them? Some nominalists answer (*Q* 68) that upon hearing and seeing a common name applied, we learn to apply it ourselves "by induction." The realist retorts that for such learning to occur, there must be a clue common to all individuals to which the learner hears and sees the common name applied. That leaves the issue where it was before. The doctrine of common names has no answer to this objection. Frege answered it, after a fashion, by insisting that functions, though not objects (existents), are yet "objective." That is why his nominalism is so superior to the other kind and, being superior, can remain "hidden." That much for the objection. The difficulty relates to what I am about.

Assume that an individual has two names, say 'Napoleon' and 'Bonaparte'. Consider 'Napoleon is Bonaparte'. In this sentence 'is' stands for identity. Generally, if an individual has two names, what way is there of combining them into a sentence except by the 'is' of identity? This suggests that proponents of the doctrine may be tempted to assimilate the predicative 'is' to that of identity. Notice that I just spoke of names, without distinction between common and proper ones. I did this because I do not really understand what it means for a word to be a common name. Or, to say the same thing differently, a name, in the only use of the term I understand, is a word attached as a label to one and only one entity. Or, still differently, in the manner of speaking I wish to discourage, every name, whatever it may name, is a proper name. Notice, second, that I spoke of suggestion. In other words, not every proponent of the doctrine asserts that in 'This is red' the copula stands for identity. To claim anything of the sort would be unreasonable indeed. For is it not the very purpose of the doctrine of common names to prevent this collapse of the two uses of 'is'? Only its proponents still somehow think of "common names" as "names." Therein, I claim, lies a temptation, or a suggestion, or perhaps even a compulsion in the direction

of that collapse. This claim is not at all unreasonable. To substantiate it, I shall present two series of comments, the first about classical (Aristotelian) logic, the second about the essay by Quine.

1. For Aristotle, there is an important difference between 'This is green' and 'Socrates is a man'. For my purpose the difference does not matter. Even so, consider the second sentence, if only because everyone knows that classical logic cannot cope with it except by the device of subsuming it, rather artificially, under the A-sentence. To do that is to construe the predicative 'is' as the 'is' (or 'are') of the A-, E-, I-, and O-sentences. For Aristotle, this third use of 'is' is the fundamental one. It is, if I may so put it, the only one for which he can account. (Frege and the realist both construe it as a combination of two predicative uses with a quantifier.) Be that as it may, formally or logically the device does the trick. But it does not even touch the heart of the difficulty, which is ontological rather than logical. Within the hylomorphic scheme, the problem of individuation is insoluble.[18] One may of course abandon individuals. That is the way Scotus took. But it can be argued that in taking it he also abandoned hylomorphism. The original terminists did not wish to go that far. Yet they faced up to the Parmenidean illusion, which is one of the roots, if not perhaps the root, of the classical difficulty, that every occurrence of the copula indicates an identity. Moreover, they insisted, like Frege, that any two names of an individual must be substitutable for each other *salva veritate* in all contexts; and they noticed that, say, 'this' and 'red' are not so substitutable. Thus they were led to the distinction which is the core of their doctrine of signification. *Connotatively*, they held, the adjective signifies indifferently each of the several red things; *denotatively* it, or, rather, its abstractum 'redness', signifies the character itself. Deny now that characters are existents. Then

[18] This is by now at least a respectable opinion. See, for all this, "Some Remarks on the Ontology of Ockham," *Philos. Rev.*, LIII (1954), 560-571; "Russell's Examination of Leibniz Examined," *Philosophy of Science*, XXIII (1956), 175-203; "Some Remarks on the Philosophy of Malebranche," *Rev. Metaphys.*, X (1956), 207-226. Leibniz, it is true, manages to accommodate both kinds of existent. But he pays the price of having to maintain that in a sense every predication is analytic *(Predicatum inest subjecto)*.

there is nothing for the adjective (or its abstractum) to signify denotatively and you arrive at the doctrine of common names. This is the step Ockham took.

2. An apple is, in a familiar sense, spatio-temporally extended. Its color and shape, as the realist conceives them, are not. For Quine, to be an existent and to be spatio-temporally extended, or, as for brevity's sake I shall say, to be extended or an extension, are one and the same thing. This is the guiding idea of his ontology. It has an important corollary. The *sum* of any number of extensions is itself extended. Roughly, sum here means set-theoretical sum. Precisely, it is the function axiomatized in the so-called meromorphic calculus. This subtlety we can safely ignore. Notice, though, that the notion of a function, in the Fregean sense of the term, is needed to state the intuitive core of this ontology.

Assume now once more that, pointing at an apple, I say 'This is red'. Or for that matter, assume that, pointing at a certain volume of water, I say 'This is the Iowa River'. Quine holds (*Q* 69) that there is in principle no difference between the two "ostensions." Just as the Iowa River is the sum of certain watery extensions, so the color may be thought of as the sum of all red ones. Which extensions we are meant to sum we learn in either case "by induction" from watching what is being pointed at (*Q* 68). Pointing, however, is ambiguous (*Q* 67). Taking advantage of the ambiguity, Quine says that one who speaks and points as by assumption I do "identifies" for the purposes of the discourse what he points at with the sum in question (*Q* 71). Notice how subtle it all is. Quine does not tell us that the copula in 'This is red' stands for identity. Of course he doesn't. As a logician, he knows better than that. Yet he says obliquely, by means of the opaque metaphor of "identification," that what I really point at is the sum. If this were so and if the color could be conceived as the sum in question, then 'This is red' would indeed state an identity.

Quine is convinced that nobody in his right mind would "hypostatize" characters as the realist does. So he must explain why such hypostasis ever seemed plausible. The explanation takes

the form of an anthropological fable. Its hero is misled by a faulty analogy (*Q* 73). As it happens, some adjectives may be thought of as standing for a sum of extensions. So he is led to hope that this is so for all adjectives. Quine constructs a simple universe in which the sum of all triangles coincides with the sum of all squares (*Q* 72). Negatively, this frustrates that hope. Positively, we are told (*Q* 75) that "in ostensively explaining 'square' . . . we say each time 'This is square' *without* imputing identity of indicated object from one occasion to the next." Again the metaphor is opaque. I do not really know what it means to impute identity. I do know, though, that we are left with two alternatives. Either 'square' stands for a character as the realist conceives it; or, even though there is no such character, we learn "inductively" how to use the common name. Quine rejects the first alternative, chooses the second (*Q* 75). Thus he lays himself open to the classical objection which I rehearsed earlier.

Quine's nominalism is clearly a doctrine of common names. That makes it very different from Frege's. Yet there are also two points of contact. The first is that, sums being functions, the Fregean notion of function is an ingredient of the intuitive core of the doctrine. The other point of contact seems at first rather verbal. Quine is fond of the formula that while sentences are either true or false, a predicate is either true or false *of* something. For Frege, we remember, the predicative 'is' is merely a clumsily disguised 'of'. Ofness, if I may coin a word, thus plays a crucial role in both systems. One may wonder whether this similarity is merely a chance product of the idiom.

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IS THERE A WORLD OF ORDINARY LANGUAGE?

HAVING recently spent seven months on the Continent of Europe and having conversed with philosophers in five different countries there, I was surprised to find, under wide diversities and sharp disagreements, a well-marked current moving in a single direction. Apart from members of traditional schools, the living thinkers of Western Europe are basically concerned with the human life-world, or *Lebenswelt*, as Husserl called it in his last published work, *Die Krisis der Europäischen Wissenschaften*. I am not suggesting that most European thinkers are now committed to any of the special methods and doctrines which Husserl defended at different stages of his long and constantly self-critical career. This is not true. Nevertheless his concern to achieve an accurate description of the concrete phenomena of the *Lebenswelt*, as they are experienced and expressed in ordinary language, is a constant theme of all his writings. And in this broad sense the influence of phenomenology has spread far and wide. There are no doubt other sources for this contemporary interest in the *Lebenswelt*. But Husserl is perhaps the focal center of this new empiricism and his influence the most widely recognized.

By *world* Husserl meant not a thing, not any set of objects, but rather an ultimate horizon within which all such objects and the individual person himself are actually understood in the "natural attitude" of everyday life. This horizon of concrete experience is sharply contrasted with the objective horizons of science which attend exclusively to objects via perspectives that are partial and abstract. As over against these, the world horizon of human life is concrete, subjective, and relative to man. This analysis has now been very generally accepted, and most European philosophers would agree that the task of describing the phenomena of this life-world and of analyzing its structure is of primary importance for philosophy. The scientist, like the rest of us, lives and moves within this world, and in a sense it is presupposed in his investiga-

tions. But we cannot expect him to perform the task of analysis, since he is interested in special, abstract objects of his own. Furthermore we must also recognize that, since the time of Plato, philosophers have disregarded the *Lebenswelt* as a subjective region of shadowy confusion and have turned their attention rather to transcendent objects and problems.

On the Continent there is now a widespread skepticism concerning such objects and problems, and a widespread recognition of the need for a more radical empiricism now generally referred to as phenomenology. The aim of this discipline is to describe the phenomena of everyday life as they are lived in the horizon of the *Lebenswelt*, and the foreign visitor is struck at once by the many philosophical studies of such concrete phenomena as laughter and tears, imagination, sorrow, the feeling of guilt, personal encounter, and so forth. In these studies abstract terms and technical language are avoided, for it is recognized that the many shades of meaning and the very ambiguities of ordinary language are themselves significant and much closer to the concrete. Each abstract horizon of science has its own special mode of abstract speech. But to deal with the inexhaustibly open and ever-changing phenomena of the *Lebenswelt*, a richer, more flexible, and more far-ranging mode of expression is required. What we call "ordinary language" develops and lives in the *Lebenswelt*. Hence this radical empiricism has brought forth a deep and widespread interest in the modes and structures of common speech. This is of course only a brief sketch but, I believe, a true characterization of what is going on now on the Continent of Europe.

After returning to this country via England and Oxford, I was deeply impressed by certain apparent similarities between the living philosophy of the Continent and the linguistic analysis which is now proceeding so widely and so intensively in the Anglo-Saxon countries. Here too I noted a similar distrust of transcendent, unobservable objects, and of the artificial problems engendered by such assumptions. One also finds a similar urge towards empiricism, a respect for what is called *fact*, and finally a similar recognition of the depth and fertility of that ordinary language which is presupposed in all the artificial constructions

and abstract modes of speech which grow out of it. These similarities led me to reflect on the mistrust and suspicion which is so openly expressed on both sides of the English Channel, and to wonder if this is not somehow based on avoidable misunderstandings and misconceptions. Is not the ordinary language of daily life correlated with the ordinary phenomena of the life-world? Is it not true that the careful study of the one must require the careful study of the other? Are not phenomenology (in the current broad sense) and linguistic analysis both approaching the same thing (concrete experience) from different angles? Are they then not so much severely opposed as mutually supplementary and fructifying?

I think that these questions need to be asked and that an affirmative answer is possible. But before an affirmative answer can be given, certain difficulties must be cleared away. There are, of course, evident differences between these two movements of thought. Perhaps the most basic of these is a tendency on the part of analytic philosophers to identify the world of everyday experience with the objective universe, or the facts revealed by different sciences, and thus to follow our tradition in slurring over the concrete and humanly relative phenomena of the *Lebenswelt* with which ordinary language is primarily concerned. In this paper I shall first of all (I) give a concrete illustration of this failure to distinguish between what we may call abstract facts of science and concrete phenomena of the *Lebenswelt*; second (II) clarify and defend this distinction; third (III) offer some criticisms of two recent attempts to avoid it; and finally (IV) raise a question for analytic philosophers concerning the need for a distinctive kind of empirical analysis which philosophers alone can perform.

I. A Reduction of Fact to Scientific Fact

The above tendency to merge all facts together under a scientific rubric is at present very widespread in England and America owing to the prestige of science and might be illustrated from many different works. I shall choose a recent essay by G. J.

Warnock entitled "Analysis and Imagination," in the volume *Revolution in Philosophy*.[1]

Warnock is considering the different tasks which he believes need to be performed by philosophical analysis. The first is to exercise a therapeutic function in revealing "the distorted character" of certain general philosophical questions (p. 114) and "breaking down the cramping rigidities which generate some philosophical difficulties" *(ibid.)*. No radical empiricist could possibly disagree with this recommendation, especially as the author points out that the only remedy for such misguided questions "is to put our concepts back to work again in actual examples, to observe how in concrete cases they do actually function" (p. 114). Next Warnock turns to "the 'systematic' work of analytic philosophy" which is to "examine language in the spirit of pure research, describing and ordering its features . . ." (p. 115). The phenomenologist can only applaud this aim.

After this, the "explanatory task of analysis" is considered. It is possible for the analyst to ask, "Why do we use language in this way?" (p. 117). Why, for example, do we use the concept of cause as we do? In order to answer such questions, Warnock again recommends a procedure that is thoroughly empirical and phenomenological. "To explain our concept of causation," he says, "we need to trace its connections not only with other concepts that we employ, but also with empirical facts about the course of events in the world and the ways in which we concern ourselves with these events" (p. 118). In this passage he seems to be speaking not merely about the objective facts of an abstract scientific horizon, but concrete facts in the life-world with which we ourselves are concerned.

Finally Warnock turns to the "inventive" function of analysis. How can the analytic philosopher be original? We think at once of the array of divergent systems, and as soon as metaphysics enters into the picture, everything changes. The idea that philosophy has any empirical function to exercise fades away. The world of fact is the same for all of us. There are no philosophic problems here. A past metaphysician like Berkeley "saw the same

[1] New York, 1957, pp. 111-126.

world that the rest of us see, but saw it from a rather different angle" (p. 122). He may have invented a new "conceptual apparatus," but in claiming that he was "discovering something real" *(ibid.)* he was wholly mistaken. Real facts are the province of science. In this respect the logical positivists were quite correct. "It was precisely by making these claims, by presenting themselves as super-scientists, discoverers par excellence that metaphysicians drew on their own heads the formidable bludgeon of Logical Positivism" *(ibid.)*. In claiming any access to facts of any sort not thoroughly covered by some science, philosophy sets itself "on quite the wrong ground, ground from which it is liable to be destructively expelled" (p. 123).

After some reflection on these passages the reader is led to ask, does philosophy exercise any factual function or does it not? Warnock seems to give a divided answer, and this ambiguity, I believe, is significant. In dealing with the therapeutic and systematic functions of philosophy, he recognizes that the analyst is not concerned with concepts alone but also with certain facts, recalling our attention to "the concrete and the familiar" (p. 115). Now science may begin with the concrete and the familiar but it does not end there. Indeed, to be in this condition is precisely the sign of imperfection and immaturity. Each science tries to move away from this as soon as possible to the abstract and the unfamiliar. To dwell on these familiar facts of concrete experience in the attempt to analyze them accurately and interpret them is not the function of science. If it is to be performed at all, it is the function of philosophy. If there are such *philosophic facts*, or *world facts*, as we may call them, not "covered" by any special science, then it is false to assert that philosophy is exclusively concerned with language alone or with our "conceptual apparatus."

But then a few pages further on, after suggesting something of this kind, Warnock ridicules the whole idea that philosophers (now called metaphysicians) might be "discoverers" (p. 122), and asserts that any claim to factual evidence will bring them onto ground from which they are "liable to be destructively expelled," especially by Logical Positivists.

This, I believe, is a confusion, to which I desire to call the reader's attention. It is in essence the failure to recognize an

important ambiguity in the English word *fact*, which refers not only to scientific facts such as that the boiling point of water at normal atmospheric pressure is 100° C, but also to *world facts*, as I shall call them, such as that this yellow pencil is now on the table at my right. I shall maintain that these two senses of the same word *fact* are quite distinct, and that our constant tendency to reduce the second to the first leads to basic confusions concerning the nature of philosophy.

I believe that this reduction of fact to scientific fact is found not only in the thought of analysts, but also in that of many other philosophers at the present time. I have chosen Warnock's essay simply as a fairly typical example of a tendency that is now widespread in English and American philosophy. Indeed this tendency is firmly grounded in a traditional distrust of the confused and transitory data of immediate experience which goes back to the first origins of rational thought in the West. But I am not concerned here with this historical background. I am interested only in showing that there is an order of world fact which is bound up with ordinary language, and which is quite distinct from the different ranges and levels of scientific fact. I shall not try to present any coherent theory of what this order is, though theories of this sort have been presented. Many of them contain features that are both sound and suggestive, but all of them are as yet very incomplete and open to serious question at crucial points. I shall be content to suggest a few characteristic marks which I believe, in the light of ordinary language, are sufficient to justify this distinction between two kinds of fact.

II. World Facts versus Scientific Facts

World is a term of ordinary discourse referring to an ultimate horizon embracing all lesser areas and regions of human activity, together with the things and persons in these regions. Thus we speak with a certain qualification of the world of finance, the world of the theater, and even of the world of science, referring in an inclusive sense not merely to the theories or objects of research but to the institutions, laboratories, and activities of scientists

as well. *The* world is that ultimate horizon which includes them all. When we wish to express the most far-ranging doubt concerning the location of anything in any region, we say, where in the world will you find it? This last horizon includes not only spaces and places but things, persons, activities, and kinds of act. Hence when we seek to express the most far-reaching doubt concerning any of these categories we use similar expressions, saying, what in the world is this thing? who in the world will do this for you? how in the world can this be done? and what in the world are you going to do? This world horizon encompasses all that we can know by feeling, thought, imagination, and any natural power. Hence to speak of another world, or of what lies beyond this world, is to refer to what transcends our experience in the widest sense of this word. The world is the last limit of what we can feel, or know, or contact in any way.

It is not a thing or any collection of things or persons, for of them it would always be appropriate to say that it, or he, or they are in the world. Thus my friend and I are in the world together. The tools in a shop are in a certain working region of the world, as are mountain ranges and continents and even stars—if spoken of concretely and not abstractly as examples of general principles or laws. We refer to Newton's law of gravitation as a law of physics, not as a law of the world nor even as a being in the world, for it is too abstract to have any being of its own. But regarded more concretely as a phase of seventeenth-century science, it certainly belongs to world history.

Things, persons, and even abstractions, when considered concretely as parts of wider contexts to which they belong, are all in the world. Indeed, we may say that this world background is part of what we mean by a thing or a person, for if I hear someone speaking of something not in this world and question him as to his meaning, it soon becomes clear that he is referring to what is transcendent and therefore no longer a thing. All concrete entities that are actual, or even conceivable, must be envisaged in a world context. Thus the novelist, in creating the persons of his story, must also create a world to go with them. Actual things, collections, and even fictions, when considered concretely together with those who construct and sustain them,

are all in the world. But of the world itself we do not say that it is in the world, or indeed that it is *in* anything. It is not a thing but a horizon, the last limiting horizon of human experience and ordinary language.

Let us now turn to a second basic difference which we have already suggested but which requires some further elaboration. This is the difference between abstract and concrete. Science certainly begins with individual world facts. But as we have pointed out, it moves as rapidly as possible to various abstract levels where it can formulate certain hypothetical laws of the type, if *A* then *B*. As is well known, these laws do not attempt to describe the actual course of concrete events. They state rather what will happen in general under certain specified conditions. Thus, disregarding atmospheric resistance, a body will fall at such and such a rate, or at a certain pressure water will boil at such and such a temperature. These abstract generalizations are the facts of science. When a science has arrived at maturity, concrete occurrences come into the picture only in so far as they exemplify or conflict with such generalizations. The movement is away from the concrete toward the abstract. Let us now turn to a world fact such as, This yellow pencil is now on the table at my right. The pencil is now here before me as I face the world. Such facts as these are at least as certainly known and as well confirmed by critical observation and intersubjective testing as any scientific facts. But two differences need to be noted.

General terms, of course, like pencil, yellow, and table, have to be used. Otherwise the fact would remain ineffable. But the fact is individual and concrete, as is indicated by the demonstrative words *this* and *my*. The universal terms are used not to express a universal connection, but to illumine an individual situation here and now which must constantly be recognized and held in mind, if this fact is to be properly analyzed and understood. Here the movement is not only from the concrete to the abstract and universal, but also from the abstract and universal back again to the concrete which is always the center of attention. Such an entity, in its full concreteness, like this pencil, or I myself, is always envisaged in the world horizon, though this is often left unexpressed. Thus I do not normally think of myself as being

in the solar system, or even in the Milky Way, though these statements are technically true and acceptable in certain artificial contexts. But the whole of my concrete being, to which I refer by the first person pronoun, is too rich and variegated to be included within such abstract horizons. So I say rather of myself in a concrete context that I am in the world.

In the second place, while a world fact may be illumined by universal terms and by hypothetical judgments involving special movements and conditions (if I looked at it from below, it would still look yellow), it does not itself necessarily involve such special conditions or abstractions. It is simply a concrete fact that has now emerged in world history. Of course one can analyze out certain conditions, like normal light, that do in fact hold. But these conditions hold after the fact, and in it, not before. The fact is not dependent on adopting a certain abstraction, or making certain arrangements. It is simply there before me in the world. Hence it is to be described in a categorical, not in a hypothetical or universal, mode. These two further differences must be noted. The facts of science are abstract and partially dependent on special modes of approach and observation. World facts are concrete and independent of any special mode of approach.

A third basic difference, clearly noted by Husserl, is that the various fields and regions of science are purely objective, and consciously removed from what is called *the subjective*, as something incidental and capricious. To observe something scientifically means to gain an attitude of impartial detachment and to regard it as an object that is simply there before the mind. Whatever cannot be regarded in this way is dismissed as capricious and subjective. Nonliving things cannot be examined in any other way, and probably not too much is lost in such an analysis. Every phase of human existence also can be regarded from the outside, even human thinking and action once it is finished, in its deposits and results. But something is missed by such an objective procedure. This is the act as it is proceeding, as lived and experienced from within. Thus it has now been shown that it is one thing to analyze the finished results of language from the standpoint of an external observer, and quite another to analyze it as

it actually proceeds from the point of view of the living speaker.[2]

These inner factors of lived experience may be ignored as subjective by the detached attitude which is normal for science, but they are nevertheless important to living men, and play an essential role in the world horizon, which, as Husserl said, is relative to man and subjective. This is certainly true in spite of the vast range of this world horizon. Thus it is clear that the organs of the human body map out a world pattern, and that the human infant, from the time of birth and before, is open to a world that answers positively or negatively to its needs. It is no wonder, then, that we speak of the human world in contrast to the life-fields of other animals with different organs and needs. We go even further than this, and speak of my world, and of the world of a given individual, *x* or *y*, whose pattern is quite different. Such subjective factors have no place in the objective perspectives of science. Hence we do not speak of my galaxy, nor of the Hindu solar system. It is perfectly natural, however, to speak of the Hindu world, for this horizon of concrete facts involves not only objects but also subjective factors which are normally omitted by science.

That this is no mere accident of speech we can show by a brief analysis of the world fact we have chosen: this yellow pencil now on the table at my right. Physical space does not lie around a vital center and is not oriented with respect to vital directions. Hence while the physicist may have to employ the notions of right and left in manipulating the instruments of his experiment, they have no place in the finished products of his analysis. But the space of the world is an oriented space, and we would at once lose our bearings if we could not distinguish in it the vital directions of right and left. Not only is this true but the notion of the pencil being *on* the table refers to a subjective orientation that is wholly absent from physical space. It involves a category of above and below which is derived from the relation of my body to external objects, which cannot be conveyed by any purely geometric or physical analysis. No matter how detailed such an analysis might be, unless it

[2] Cf. F. de Saussure, *Cours de linguistique générale* (Lausanne, 1916).

surreptitiously introduced "anthropomorphic" factors, I could not tell from it alone which of the extended objects was above or below, or whether they were merely side by side.[3]

The objectivist will no doubt wish to say that this is merely the introduction of a distorted and biased version of physical space. But this is also to express a bias. Without begging many questions it will perhaps be fairer to say, in the light of what is now known, that world space contains many human factors which are absent from any pure geometric or physical space. This should not be understood as implying that world space, or the world, is merely *subjective* in the usual sense of this confusing word. If we turn to ordinary language for guidance, we find it hard to imagine any situation in which it would be reasonable to say that space is in me, or the extended things outside of me are in me, or the world is in my head. The relativity of which we have been speaking makes no demand on us to accept any such absurdities. Neither does it necessarily imply that our experience is a distorted version of things as they are in themselves.

It does require that the things we know are in relation to us. But there is no reason for doubting that these relations are quite real, that we can know them at least in part as they are, and that by abstracting from these relations, science can give us some knowledge of what things are apart from them. The beings around us are quite independent. But we understand them and order them in a world horizon which is relative to us. This is a digression, however. The point we are concerned to make is that this relative world horizon is different from the more abstract perspectives of science, and that world facts, therefore, include relative factors which are absent from what we may call normal scientific facts. What are these relative factors?

I shall not attempt to draw up an exhaustive list but now, as a fourth point, will make a few comments on one of the most important of these, namely value.

These phenomena can, of course, be regarded from a detached point of view as value facts. In this way they can be embraced

[3] M. Merleau-Ponty, *Phénoménologie de la perception* (Paris, 1945), pp. 117-118.

within a scientific or objective framework. We can observe that such and such a person A has a desire for B, and that such and such a culture Y has a dislike for Z. But objective facts of this sort are quite different from values as they are directly experienced in the *Lebenswelt* and expressed in ordinary language. Hence the statement that science is neutral to value conveys a certain truth which needs to be spelled out. We shall take the time now briefly to note three differences.

First, we have inherited from our tradition a strong tendency to think of things as substances which are prior to their relations (including value relations)—a certain kind of accident. A thing must first be what it is before it can have a value. Thus for the objective analyst, the pencil is first of all an extended substance with a certain shape and point, a certain color, and so forth, which may be used for writing. Value predicates are later additions that things come to have in relation to human desire. In the *Lebenswelt*, however, values are original and lie at the very core of things. Thus in ordinary conversation we would never refer to the object at my right as a thing with certain properties adapting it to writing. We refer to it straight off as a pencil, which is not a neutral noun but a value term. This is not only true of artificial objects but of natural objects as well, like sunshine, storm, and fire. In the life-world, these objects are originally loaded with value meanings. To lose sight of these meanings is to fall into complete disorientation. In the *Lebenswelt* value is not a later addition. It is constitutive of the thing.

Second, the realistic tradition has led us to make a similar analysis of the human agent or the human group. Good or evil desires and acts are later accidents which the agent may or may not "have." But the living agent is not separated from his acts in this way. He *is* a set of desires and aspirations. A human culture is not a neutral structure with approvals and disapprovals added on. It *is* a structure of approvals and disapprovals. To be committed to a value is very different from observing this from outside. When I actually hold to a value, it becomes essential to me and affects my whole existence from the ground up. Thus in ordinary, moral discourse, as distinct from detached argumentation, we do not say that a friend of ours had courage on such an occasion. We

say he was courageous. We do not speak of a person as developing attributes of slyness and greed. We say he is rapacious.

Third, we have already touched on a point which needs to be developed further. This is a tendency commonly found in objective analysis to regard value as a special kind of property, or genus, or region separate from other regions. One example of this would be the traditional way of distinguishing between value and fact. More specific illustrations would be Hartmann's realm of value, and even G. E. Moore's conception of value as a very peculiar, simple, and unanalyzable property. It is difficult, however, to find concrete illustrations of this restrictive character when one turns to the life-world. Here what we refer to by the term "value" refuses to let itself be confined within any special compartment or region but seems rather to run through various regions, even getting itself involved in whatever it is that enables us to distinguish between different regions, each of which is for some end. Thus the whole area of agriculture, farms, fields, storage plants, and slaughter houses is for food, that of medicine, sewers, food inspection, research laboratories, medical schools, and hospitals for health, and so on.

In the light of these facts, it would seem to be hard to maintain that value is confined only to a single, special region of its own. It would seem rather to pervade the whole life-world. This pervasive character is reflected, as we should expect, in ordinary language where value is not expressed by any special words or forms but by all words and all forms, including the tone of voice.

I believe that this is sufficient to show that there is an ultimate world horizon correlated with ordinary language which has certain features distinguishing it sharply from the objective horizons of traditional realistic thought and modern science. This world horizon is (1) concrete and (2) categorical. It also contains (3) certain "subjective" and relative factors, among the more important of which is (4) a pervasive "value" factor which cannot be understood (as it is) from the outside, but only as it is lived, so to speak, from the inside. As over against this, the horizons of realist philosophy and science are abstract and hypothetical. They also have no place for the lived experience of value and other experiences of this kind, whose pervasive

character they try to restrict, and which they neglect and dismiss as private and subjective. Hence I believe that the distinction between world facts and scientific facts is justified. World facts are in the former horizon, scientific facts in the latter.

We have pointed out that the world horizon is characterized by a certain ultimacy, and that, for ordinary language, at least, what lies beyond the world possesses an unqualified transcendence which certainly does not seem to belong to any facts of science. We have also suggested not that every scientific fact, but that every type of scientific fact, can be found as an abstract aspect of some world fact. In the context of ordinary discourse we should certainly find the statement that science is out of this world as odd. These observations might seem to suggest that the various perspectives of science, or *the* perspective, if there is such a thing, should be regarded as an abstract horizon within the *Lebenswelt*. Such a view is, I think, defensible and certainly does not imply any traditional form of idealism. But it raises many basic issues which I have not touched upon. So I am not defending it or even considering it here. I am simply asserting that world facts belong to an independent world horizon quite distinct from the scientific universe, that this is the factual horizon or ordinary language, and that it deserves disciplined attention and study by philosophers. This is my thesis.

III. Two Ways of Reducing World Facts

As we have pointed out, the central tradition of Western philosophy has been predominantly objectivist and has been marked throughout its history, ever since Plato, by a strong tendency to restrict and depreciate world facts as relative and distorted versions of reality, and finally to absorb them into a purely objective perspective. I have no time here to review all the manifold phases of this prolonged attempt to discredit ordinary language and its world. I shall single out two versions of this attempt now widely familiar for a brief concluding comment. One of these uses the distinction private versus public, the other that of subjective versus objective. Both distinctions are now commonly

employed as ways of restricting the world horizon of everyday speech to a very limited perspective which, in this reduced form, can be more readily fitted into the scientific universe—the last framework into which objectivist thought has crystallized.

Those who make the former distinction arbitrarily cut off the human person from his world horizon and enclose him within a private world of his own. Since the sensory equipment of each individual is different from that of every other, we can understand why the sensations that arise in him must be different from their objective causes, and also different from those of another. Each individual lives in a private world of his own which he directly experiences within himself. These private worlds, though different in quality, vary in correlation with objective stimuli. Hence, if properly interpreted, they may be biologically useful and may justify the inferences of science. They appear with the human organism as a late phase of biological evolution and, as such, they may be fitted into the great public world of objects which includes them spatially as well as temporally and which is always the same for all observers. Just as the private dwellings of individuals are tiny parts of the public town, so the private worlds of individual organisms are tiny parts of the public universe of science. Both Russell and Broad have used the terms "public" and "private" in a reductive argument of this kind.

Of this argument we need only note that while every experience arises from a private center, it always opens into a public world horizon from which it cannot be separated except by arbitrary abstraction. My world is never exclusively private. It is my private way of relating myself and my experiences to an ultimate horizon which is shared. In its very constitution it is a union of the private and the public and therefore has room within it for both. As a matter of fact, both factors are always found, as is clearly witnessed by ordinary language, for do we not only say that I myself, my body, my innermost thoughts and desires are in the world, but that the public streets, the fields, the mountains, and the stars are in the world as well? Both public and private are factually in the world.

The distinction between subjective and objective has also been used to break down the integral structure of human existence in

the world and to discredit ordinary language for the sake of artificial constructions. Such attempts are subject to a similar criticism. Consciousness has a subjective center, but it is found to be always stretched out toward objects of some kind. These objects, and the way in which they are ordered, may differ from individual to individual and from culture to culture, but no self has ever been found in an objectless state. As a matter of fact, our experience is neither exclusively subjective nor exclusively objective but a relational structure to which neither term alone does justice.

Concrete experience is private as well as public, subjective as well as objective. Neither can be separated from the other and reified without distorting the facts, for human existence is open to a world horizon. Man carries this "field" with him wherever he goes, and it is now clear that this is a necessary aspect of his existence. Without a world there can be no man, and without man there can be no world. Far from containing us within a special, mental region, it is precisely our lived subjectivity that opens us to an ultimate world horizon, and it is precisely this last objective horizon that requires a subjective center. In the light of these remarks, I shall now venture to suggest that the distinction of private versus public, and subjective versus objective, as they have been commonly used in traditional philosophy, are phases of an age-old effort to depreciate the world of lived experience as subjective and relative, and to discredit ordinary language as hopelessly vague and confused.

IV. A Final Question Addressed to Analytic Philosophers

I began this paper by noting the present sharp separation of those phenomenological studies of the world of direct experience, which have had a revolutionary effect on the Continent of Europe, from the method of linguistic analysis which is now exerting a marked effect on Anglo-Saxon thought. In the light of the close correlation between ordinary language and the empirical world, this mutual separation and distrust seem strange, and I suggested that a study of the reasons for this mistrust of philosophy on the

Anglo-Saxon side as in any sense an empirical discipline might have something to do with the traditional tendency to disparage or at least to restrict the immediate data of experience as unstable and subjective.

I then examined a recent account of analytic philosophy (I) and showed that it was characterized by a certain ambiguity in its use of the term *fact* which easily leads to a reduction of world fact to scientific fact, and to a denial that philosophy has any empirical function to perform. After this (II) I offered three kinds of evidence to show that there are cogent reasons for making the distinction between world facts and scientific facts, and chose two types of argument, based on the distinctions private versus public and subjective versus objective, which have recently been used to restrict and discredit immediate experience as purely private and subjective. I showed that these arguments are subject to certain criticisms, and that our subjective experience, far from being reducible to a set of impressions or inner sense data, actually opens up to a world horizon which is markedly distinct from the objective perspectives of science and traditional philosophy. In the light of these observations, I should now like to raise the following questions which, it seems to me, are important for analytic philosophers.

Is it not true that ordinary language is concerned with facts of a different order from those of science? Is there not a world of ordinary language? Is it not likely that this world has a certain structure which is not the concern of any special science but is worthy of disciplined attention? Such a study has been inaugurated on the Continent of Europe by the so-called phenomenologists. Is not such a study closely correlated with that of everyday discourse? Instead of being essentially opposed, are not these two approaches mutually supplementary and fructifying? In short, is there not a world of ordinary language and is not the disciplined study of this world of interest to the analytic philosopher?

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LOCKE ON THE LAW OF NATURE

THE traditional interpretation of Locke's *Two Treatises* began, as Locke had begun, by saying that he was writing to defend and justify the Revolution of 1688. Mr. Peter Laslett has recently argued, quite persuasively, that this aspect of the traditional reading of Locke must be changed; that, indeed, Locke wrote to anticipate the events of 1688.[1] A wealth of new information on Locke as a person and an historical figure encourages a whole realignment of the standard interpretation. Locke is emerging as a much more complex, fascinating, even ambitious person than was hitherto suspected.[2] The changes in our reading of his philosophy required by the new data are not so extensive or radical as those in our understanding of Locke the person, but there are several crucial points where a rereading—either in the context of the debates and issues of his day or in the light of the new data—is warranted. Whether Laslett's dating of *Two Treatises* be accepted or not, few would dispute the claim that Locke's analysis of society rests upon two stock theoretical devices: natural law and the state of nature.

Several considerations justify a reappraisal of his views on these two concepts. The most obvious is the publication of the early *Essays on the Law of Nature*.[3] These essays give us much more information than we have previously had about Locke's thinking on the law of nature. But despite von Leyden's careful editing, I think we do not yet have a fully correct picture of Locke's theory

[1] "The English Revolution and Locke's 'Two Treatises of Government,'" in *Cambridge Historical Journal*, XII (1956), 40-55. Laslett's contributions to Locke scholarship are well known to those who have been working in that area. The fruits of his researches and interpretations of Locke's political philosophy will shortly be available in his edition of Locke's *Two Treatises* for the Cambridge University Press. I have profited greatly from conversations about Locke with Laslett and stand in particular debt to his careful reading of this paper.

[2] Maurice Cranston makes good use of the new material in his recent biography, *John Locke, A Biography* (New York, 1957).

[3] Edited by W. von Leyden (Oxford, 1954). Hereafter I will refer to this as *Essays*.

of natural law. I want to offer an interpretation of these essays which differs in some respects from that of von Leyden. The other rationale for a reappraisal of Locke on the law of nature is the violently distorted interpretation recently advanced by Leo Strauss.[4] Strauss did not have access to the published edition of the early essays nor did he consult the Lovelace Collection of Locke manuscripts. He might not be expected to have as full a view of Locke's theory as we can now have. But Strauss has gone to very particular pains to say that Locke was really a genuine Hobbist in his social theory, a claim Strauss pretends to demonstrate by minute attention to and quotation from the Locke corpus. It is not so much the obvious incorrectness of Strauss's reading which calls for comment as it is the techniques employed in support of his reading. Strauss has an ulterior reason for dealing with Locke as he does: he claims that Locke's real doctrine has been purposely hidden under the show of respectability.[5] It is not surprising that the Strauss esotericism turns out to be insupportable when applied to Locke, but it is startling to discover the flimsiness of the pretended support and the unscholarly nature of Strauss's analysis. Strauss's general esotericist thesis suffers a severe blow when we consult the techniques he employs. The sharp juxtaposition of Locke's early *Essays*—supported and amplified by

[4] *Natural Right and History* (Chicago, 1953).

[5] I do not want to question Strauss's general theory about techniques of saying one thing and meaning another, the theory of esotericism. His views on this subject are best expressed in *Persecution and the Art of Writing* (Glencoe, Ill., 1952). (For a judicious discussion and rejection of this claim as applied against ancient writers, see George Boas, "Ancient Testimony to Secret Doctrines," *The Philosophical Review*, LXII [1953], 79-92.) What I challenge and charge with irresponsibility is Strauss's application of this esotericist thesis to Locke. The lengths to which Strauss will go in making Locke say what Strauss wants him to say are clearly evident on pp. 207-209 of *Natural Right and History*. Locke is there made to hold a "view of caution" which accepts the generalization: "cautious speech is legitimate if unqualified frankness would hinder a noble work one is trying to achieve or expose one to persecution or endanger the public peace." Strauss refers to those passages in Locke's *Reasonableness of Christianity* which discuss Jesus's activities and the way he kept his identity as the Messiah implicit. Locke's point is that Christ did not come right out and say "I am the Messiah" simply because he knew he had to fulfill his mission of preaching the gospel. Locke in no way generalizes from this very special situation to a theory of the art of writing under persecution.

Two Treatises and other writings—with Strauss's errors and distortions, will provide a convenient background against which my own analysis of Locke on natural law can be presented.

I

It is my contention that Locke's appeal to and use of the law of nature must be viewed in the context of the doctrine of innate knowledge. The polemic against innate knowledge in the first book of the *Essay Concerning Human Understanding* has sometimes been thought to be against a straw man. But I have attempted to show that the theory was held in various forms throughout the seventeenth century in England.[6] The naive form of the theory used the terminology of a truth "stampt" and its "characters" indelibly written in the hearts of men, of "red letters," "heavenly beams of light." Examples of truths said to be innate in this way are: "there is a god," "God is powerful," "promises are to be kept," "parents are to be honoured," "we must not injure and harm any Person, but render to every Man his due." The terminology and the examples were used by many writers in the seventeenth century, even where they were attacking the doctrine. Locke was not the first to attack the naive form of the theory but he formulated the most extended argument against it. The modified version is that the test for innateness is the "ready and prompt assent given to such truths once they are presented to us." Henry More followed this version of the doctrine of innate knowledge,[7] and Culverwel expressly linked it with the law of nature. "There are stamp't and printed upon the being of man, some clear and undelible principles, some first and Alphabetical Notions; by putting together of which it can spell out the Law of Nature."[8] He stressed the activity and spontaneity of the soul in the generation of its ideas and in its ready and immediate assent to certain moral and speculative principles. The modified version of innateness treats truths as implicit in man, waiting to be

[6] *John Locke and the Way of Ideas* (London, 1956), ch. ii.
[7] *An Antidote against Atheisme* (1653).
[8] *An Elegant and Learned Discourse of the Light of Nature* (1654), p. 47.

recognized once the light of reason has been turned upon them; it advances a dispositional claim for innateness. Wherever a writer finds reasons for relinquishing the naive form of the doctrine—and there were many in the seventeenth century who did—it is always the dispositional formulation which replaces it. The appeal to self-evident truths, particularly moral truths, was everywhere felt to be necessary for the preservation of morality. Morality could in this way be given an objective foundation.

What Locke was doing in his polemic against the naive form of the doctrine was to organize the various actual and possible objections in such a way that the adherents to the doctrine would be led to spell out in precise terms just what they were claiming. He argued, in effect, that either the theory (in its naive form) asserts something which not only is odd but which can never be verified, or that the theory (in its dispositional form) states an obvious fact about man, namely, that some truths are recognized as self-evident once we have acquired the mature use of our rational faculties. Locke's polemic was not directed towards the modified version of innateness. He did not refer to the truths or the knowledge obtained by the light of reason as "innate." He was always ready to point out that he recognized self-evident truths and principles but he prefers to restrict innateness to the naive claim of literal truths imprinted on the mind or heart. Locke was not unmindful that his polemic against innate knowledge might be interpreted as an attack upon the law of nature but he expressly warned against such an interpretation. "There is a great deal of difference between an innate law, and a law of nature; between something imprinted on our minds in their very original, and something that we, being ignorant of, may attain to the knowledge of, by the use and due application of our natural faculties."[9] The law of nature and the dispositional version of innateness are clearly linked together. It is usually thought that Locke's rejection of the innate doctrine goes hand in hand with his empiricism, with the grounding of all knowledge in experience, after the fashion of Book I of *Human Understanding*. Either innate ideas or an empirical origin for all ideas. Locke

[9] *Essay Concerning Human Understanding*, Bk. I, ch. ii, sec. 13. Hereafter referred to as *Human Understanding*.

even says, in the early *Essays*, that all knowledge comes either by inscription, tradition, or sense experience. But Book II of *Human Understanding* must not be allowed to override Book IV: the explicit empiricism of his thought should not obscure the clear rationalistic foundation for his theory of knowledge and reality. There are various ways in which the usual empirical reading of Locke needs to be altered, but all that is relevant to this discussion is the crucial role played by his appeal to self-evident truth. Intuition of the steps in demonstration is plainly stressed by Locke as basic in knowledge, but he was not fully aware of the epistemological implications of a theory of knowledge, morality, and society which was based upon the same kind of appeal to self-evidence. The function of reason in his analysis of knowledge was noted but its importance and significance were overlooked.

The closeness of Locke's discussion of the law of nature to the doctrine of innate knowledge is evidenced by the terminology, the examples, and the objections he offers to various aspects of the law of nature doctrine in the *Essays*. A synonym for law of nature, he says, is right reason, "to which everyone who considers himself a human being lays claim" (p. 113, cf. pp. 134-35, 203). The distinction in this remark between men of reason who are human beings proper and those others not yet at the age of reason (children, idiots) was a frequent one in the literature on innate principles during the seventeenth century. The dispositional test for innateness reappears in his criterion for the law of nature in a passage almost identical with statements by Culverwel.

> We do not maintain that this law of nature, written as it were on tablets, lies open in the hearts, and that, as soon as some inward light comes near it (like a torch approaching a notice board hung up in darkness), it is at length read, perceived, and noted by the rays of that light. Rather, by saying that something can be known by the light of nature, we mean nothing else but that there is some sort of truth to the knowledge of which a man can attain by himself and without the help of another, if he makes proper use of the faculties he is endowed with by nature [p. 123].

Such a criterion as this can be made to include almost any truth, particularly those truths deemed necessary for morality. The law

of nature for Locke plays the same role in morality as the appeal to innateness did for his contemporaries: it furnishes a firm and unalterable foundation for moral goodness. What he was arguing for in the second of these *Essays* was that the law of nature (what we might call the "moral rule") is not known through inscription or handed down by tradition but is known by reason through sense experience. He pretends, that is, (and von Leyden follows him here) to offer an experiential (empirical) foundation for the moral rule, in radical opposition to the believers in its innate basis. But how precisely do the senses and reason work to produce the apprehension of the law of nature?

He argues first of all that, "if man makes use properly of his reason and of the inborn faculties with which nature has equipped him, he can attain to the knowledge of this law without any teacher instructing him in his duties . . ." (p. 127). From the appearances of sense perception, "reason and the power of arguing . . . advance to the notion of the maker of nature" (p. 133). Just as soon as man has the idea of God "the notion of a universal law of nature binding on all men necessarily emerges" (p. 133). Reason and sense are the sole foundations for all knowledge.

> But since, as has been shown elsewhere, this light of nature is neither tradition nor some inward moral principle written in our minds by nature, there remains nothing by which it can be defined but reason and sense-perception. For only these two faculties appear to teach and educate the minds of men and to provide what is characteristic of the light of nature, namely that things otherwise wholly unknown and hidden in darkness should be able to come before the mind and be known and as it were looked into [p. 147].

There are many assumptions contained in Locke's inference from sense experience to God and from that to God as a lawmaker, and thence to a law of nature. But the important point is not that his inferences rest upon unexpressed assumptions. What is important for us to notice is that he failed to see all that the appeal to reason contains. Sense and reason as faculties of the soul are by no means of equal status. The concept of reason for Locke is the discursive faculty, the ability to argue, to infer, to advance step by step from premise to conclusion. But reason as the light of nature which reveals to man the law of nature is a faculty

which makes inferences on the basis of sensory material alone, with no other rational premises as the basis of the inference. The inferences to the law of nature are more like immediate than mediate inferences. The conclusions are of the utmost importance for morality and religion. Locke was seeking to justify a system of morality by grounding the moral law in something objective. The law of nature is a decree of God, not of man's reason. It is part of God's will.

II

Strauss summarizes the results of twenty-six closely reasoned, quotation-filled pages on Locke's theory of natural law, state of nature, and civil society as follows:

> But reason teaches that life cannot be preserved, let alone enjoyed, except in a state of peace: reason wills peace. Reason therefore wills such courses of action as are conducive to peace. Reason dictates, accordingly, that "no one ought to harm another," that he who harms another—who therefore has renounced reason—may be punished by everyone and that he who is harmed may take reparations. These are the fundamental rules of the law of nature on which the argument of the *Treatise* is based: the law of nature is nothing other than the sum of the dictates of reason in regard to men's "mutual security" or to "peace and safety" of mankind. Since in the state of nature all men are judges in their own cases and since, therefore, the state of nature is characterized by constant conflict that arises from the very law of nature, the state of nature is "not to be endured": the only remedy is government or civil society [p. 228].[10]

[10] I indicate in what follows the more glaring errors made by Strauss and the irresponsible methods he uses to substantiate them. But a word about his method of citation may lend more flavor to the appreciation of what is involved. The pages devoted to Locke in Strauss's book (pp. 202-251, especially 202-227) are filled with brief words, phrases, sentences quoted from Locke. After a long series of such quotations, a footnote lists a string of references to the Locke texts. But the order of references in no way corresponds to the order of quotation. In many cases, the references are quite irrelevant to the point Strauss has been arguing. In other cases, parts of sentences have been turned around, a later portion being quoted before the earlier. In all cases, Locke is quoted out of context, the context being ignored or carefully covered up; the references are scattered throughout the Locke corpus. It takes literally hours to trace the references to single words and brief phrases, which usually have a different meaning in their context than they have on Strauss's page.

The doctrine is clearly Hobbes's but Strauss credits it to Locke. That this reading of Locke is almost wholly erroneous should be obvious to any reader of Locke. Were it not for the seriousness of the charges and the method of supporting them, the importance which Strauss's name commands, and the illumination of Locke's doctrine which the unraveling of some of Strauss's more glaring mistakes produces, it would be a waste of effort to undertake an exposure of such a misinterpretation. The twenty-six pages leading up to the above statement can be grouped around four main propositions which Strauss strives to extract from the Locke corpus, propositions necessary for his Hobbesian reading of Locke. These can be formulated as follows. (1) Natural law is opposed to and different from Scriptural law and is man-made, not the will of God. (2) Natural law is based on an innate natural right for happiness or self-preservation, the natural law being that law required by man to protect his own self-interest. (3) The sanction for the natural law is pleasure and pain, rewards and punishments; natural law has a hedonistic basis. (4) The state of nature is full of conflict; every man can do what he wants. All four of these are Hobbesian principles and all except (3) were expressly rejected by Locke. The third proposition raises a crucial problem and is the only part of Strauss's reading which has any foundation in Locke's writing. The next section will explore this problem, together with proposition (2). The section following will discuss Locke's concept of a state of nature. In the present section I want to examine proposition (1).

In *A Second Vindication of the Reasonableness of Christianity*, Locke said: "As men, we have God for our King, and are under the law of reason: as Christians, we have Jesus the Messiah for our King, and are under the law revealed by him in the Gospel."[11] Strauss argues that the relation between the law of reason and the revealed law is at best that of part to whole; the orthodox doctrine of the law of nature demands the full law, which in Locke's case can only be found in Scripture. Moreover, the break between reason and revelation enables Strauss to argue that the sanctions

[11] Locke, *Collected Works* (1823 ed.), p. 229. References to the *Reasonableness of Christianity* are from the same edition. The pagination is the same as in the 1824 edition which Strauss used.

for the law of reason are not divine. Now it is interesting to discover that although Strauss quotes (however, only in a footnote) the above passage from the *Second Vindication,* he cuts short the subsequent passage, using a frequent device of dots for the inconvenient statements. Immediately after the sentence I have quoted, Locke goes on to say:

> and though every Christian, both as a Deist and a Christian, be obliged to study both the law of nature and the revealed law,[12] that in this he may know the will of God, and of Jesus Christ, whom he hath sent; yet in neither of these laws is there to be found a select set of fundamentals, distinct from the rest, which are to make him a Deist, or a Christian [p. 229].

Locke clearly says that both laws express the will of God and that neither contains distinct or unique injunctions which the other does not have. The one fundamental article of faith for a Christian is belief in Jesus Christ as the Messiah. Locke also saw in the life and example of Jesus an implicit morality. The moral law implicit in the New Testament and the moral law intuited by reason are fundamentally one and the same; they both express God's will. Strauss attempts to make these two laws radically distinct. He achieves this reading not only by the use of omissions from crucial passages, but also by little snippets of quotations and a barrage of footnote references, some of which are irrelevant to this issue, others which actually go against Strauss's interpretation.[13] For example, he refers to Locke's note in T II, 136,[14] a quotation from Hooker. But Hooker says not that the law of reason is radically distinct from the law of Scripture but rather that the laws of reason never contradict the Scriptural laws. All the references to the *Two Treatises* give God and nature (reason) as the source of the moral law, God usually reaffirming what reason or nature dictates. In a letter to Tyrell, discussing this very subject, Locke speaks of "that branch of the divine law which

[12] Strauss stops quoting at this point; see *op. cit.*, p. 203, note 48.

[13] The irrelevant references in note 48 on p. 203 are those to paragraphs 36, 59, 86, and 124 in the First Treatise and 25 in the Second.

[14] The references to *Two Treatises* will subsequently be given in this way, the T indicating Treatise, the Roman numeral indicating the first or second treatise, and then the section number.

is called the law of nature."[15] Strauss also makes ample use of Locke's *Reasonableness* but the passages he cites or refers to all relate to Locke's concern to show that before Jesus Christ there was no adequate foundation for morality. The contrast between this morality of Jesus Christ and pagan morality means to convey nothing more. Before Christ's life and example, before the revelation in the Bible, man's unaided reason was incapable of discovering the true morality. Locke even reinforces his doctrine that both revelation and reason come from God in his *Reasonableness* (p. 143). The law of nature is given by reason and by revelation; the morality of Jesus Christ in the New Testament uses revelation. Strauss's use of omission dots enables him to cover up the either-or nature of Locke's doctrine about reason and revelation both being from God.

If the Scripture contains the full law of nature, Locke should have written, Strauss claims, a politics taken from the Scripture. Since what he wrote was *Two Treatises*, he must have found it impossible to write the Scriptural politics. Strauss can even show places where Locke's attitude to certain moral matters diverges from that of the accepted Scriptural tradition. But Locke would always say that the moral laws contained in the New Testament are there only by interpretation. His dispute with Filmer was just that Filmer had misinterpreted the Bible. Moreover, Strauss provides the more forceful reason for the form which Locke's political doctrine took when he says that Locke

> had some misgivings as to whether what he was inclined to regard as solid demonstrations was likely to appear in the same light to all his readers. For if he had any misgivings of this kind, he was forced to make his political teaching, i.e., his natural law teaching concerning the rights and duties of rulers and of subjects, as independent of Scripture as it could possibly be [p. 209].

An even more obvious reason for *Two Treatises* than a "Politique tirée des propres paroles de l'Écriture Sainte" is that the New Testament could hardly be construed as political theory or social

[15] Locke to Tyrell, 4 August 1690, reprinted in King's *Life of Locke* (1830 ed.), vol. I, p. 368.

doctrine. Locke explicitly makes this point in one of the manuscripts in the Lovelace Collection.

> The Scripture speaks very little of politics anywhere (except only the government of the Jews constituted by God himself over which he had a particular care) and God doth nowhere by distinct and particular prescriptions set down rules of government and bounds to the magistrates authority. . . . Mankind was by the light of nature and their own convenience sufficiently instructed in the necessity of laws and government.[16]

The alternative to a Scriptural politics should have been, Strauss argues, a demonstrative politics; or at least the basis of political society, that is, natural law, should be capable of being demonstrated. Strauss's understanding of Locke at this point is rather naive. Truths are either *revealed* by Scripture or *demonstrated* by reason. But reason performs another important function for Locke: it intuits those self-evident truths embodied in the law of nature. The precise relation between the law of nature, positive law, and the rules for ethical actions are not always clear from what Locke says. The doctrine of the law of nature contains the body of rules or precepts necessary for making individual and social action moral. It is not entirely clear what Locke understood by a demonstrative ethics, but a listing of some of the rules claimed by him as knowable by the light of reason or as laws of nature strongly suggests that the moral rules which compose the law of nature could not be derived in any form, demonstrative or otherwise, from a general law.

The light of reason not only knows there is a God who is supreme lawmaker; it knows very specific rules as derivable from the law of nature. The following rules—by no means all that one can find—are taken from the early *Essays* and the *Second Treatise*.

(1) Love and respect and worship God (*Essays*, p. 195).
(2) Obey your superiors (*ibid.*, p. 129).
(3) Tell the truth and keep your promises (*ibid.*).

[16] "The Civil Magistrate," MS Locke e. 7, folio 33 in the Lovelace Collection. I am indebted to Mr. Laslett for calling this passage to my attention. The passage has been modernized for spelling and emphasis. Strauss did not make use of this manuscript collection in the Bodleian Library but he could have consulted this particular entry anytime after 1951.

(4) Be mild and pure of character and be friendly (*ibid.*).
(5) Do not offend or injure, without cause, any person's health, life, or possessions (*ibid.*, p. 163; T II, 6).
(6) Be candid and friendly in talking about other people (*Essays*, p. 195).
(7) Do not kill or steal (*ibid.*).
(8) Love your neighbor and your parents (*ibid.*).
(9) Console a distressed neighbor (*ibid.*).
(10) Feed the hungry (*ibid.*).
(11) "Whoso sheddeth man's blood, by man shall his blood be shed" (T II, 11).
(12) That property is mine which I have acquired through my labor so long as I can use it before it spoils (T II, 29-30).
(13) Parents are to preserve, nourish, and educate their children (T II, 56).

It would seem a gross overstatement to argue that all of these concrete rules are derivable from a law of nature which is apprehended by the function of reason and sense. In fact, it is clearly impossible to derive these precepts from any single principle, whether it be innate, the light of reason, or a standard agreed upon by men. What these rules do is to disclose the moral framework in terms of which Locke examined society and civil government. Some of them are the same rules which his contemporaries claimed to be innate. All of them perform the same function as the principles said to be innate: they provide the moral foundation for his views on individual and social action. Just as the line of argument for those who believed in innate ideas was that certain moral rules are correct because they are innate, so Locke's main defense for any moral rule is to say it is known to be true by the light of reason, that it is a law of nature. He nowhere formulates a general maxim which he calls "the law of nature." There is no such single and general law. The law of nature turns out to be a list of laws, all of which are apparent to the rational being. These laws are taken as finding their justification in God, as being God's will. All positive law must, to be justified, be a reinforcement of these natural moral laws.

III

Reason and revelation are alternative or conjunctive paths to the laws of nature which are God's will. Strauss's attempt to drive a wedge between the law of reason and the law of God via the reason-Scripture distinction breaks down. Strauss has another ploy to achieve the same end: he tries to show that the foundation, the sanction, and the enforcement of the law of nature lies with man, not with God. He seeks to show that the law of nature is " 'a creature of the understanding rather than a work of nature'; it is 'barely in the mind,' a 'notion,' and not 'in the things themselves' " (p. 230). The quotations here are from Locke's *Human Understanding*, Bk. III, ch. v, sect. 12 where Locke is speaking about mixed modes, not about the law of nature. If it is correct to say that ethics can be demonstrated because ethical concepts are for Locke mixed modes, it remains seriously in doubt whether the rules and concepts occurring in the list of rules known by the light of reason are indeed mixed modes. Strauss does not bother to inform the reader of the context of the quotations and references he uses. Hence, what here appears as incontrovertible evidence that the law of nature is in no sense in things themselves (that is, is objective) pertains only to the remarks Locke makes generally about mixed modes. Strauss frequently makes use of passages on demonstrative ethics in order to make Locke say things about the law of nature which he does not say.[17] Just where, in Locke's schema of ideas, those self-evident maxims listed in section II above belong may be unclear. What does seem certain is that Locke said we do not *make* these rules; by reason we *discover* them.[18]

[17] E.g., pp. 202, 212. Of the references in note 46, p. 202, which purport to support the claim that Locke thought of genuine natural law as demonstrable in the same way as he thought of ethics, the following seem irrelevant: T I, 86; T II, 30, 96; *Human Understanding*, I, iii, 13. Strauss's argument on pp. 225-226 that ordinary men, for Locke, cannot know the law of nature, is again a typical Strauss confusion. What Locke says is that not everyone does know the law, although all are capable of knowing it. From the fact that the greatest part of mankind do not know the law (and Locke's *Reasonableness*, p. 146, speaks of deductive ethics, not of natural law), Strauss concludes that no one can know it.

[18] *Essays*, p. 111.

Strauss is not quickly put down, however. In *Human Understanding*, Bk. I, ch. ii, sect. 3,[19] Locke had said: "Nature, I confess, has put into man a desire of happiness and an aversion to misery: these indeed are innate practical principles." This is enough to enable Strauss to conclude that the foundation for the law of nature is an innate natural right, the right to happiness. This is a right "antedating all duties. . . . Since the right of nature is more fundamental than the law of nature and is the foundation of the law of nature" (p. 227). But Strauss need only to have finished the sentence he quotes to discover that Locke meant to contrast desires and aversions with impressions of truth upon the understanding. Only the latter are properly called "innate practical principles." The rest of the sentence clarifies his point by saying that the desire for happiness and the aversion to pain are "inclinations of the appetite." Moreover, in his marginal comments on Burnet's *Remarks* (quoted also by Fraser), Locke comments on just this passage, again pointing out that natural appetites are far different from innate moral principles. The whole point of this passage in *Human Understanding* is to draw just this distinction. It is an odd kind of perversity on Strauss's part which keeps him from finishing Locke's sentence and prevents his readers from seeing the correct meaning of Locke's statements. The laws of nature are innate in the dispositional sense but the instinct and appetites of men are nowhere said by Locke to be innate, although they are natural to the organism. The only possible connection for Locke between the laws of nature and the desire for happiness is that a life lived in accordance with the laws of nature will be a happy life. God has, "by an inseparable connexion, joined virtue and public happiness together" (*Human Understanding*, Bk. I, ch. ii, sect. 6. Fraser's edition, vol. I, p. 70). The laws are in no way a consequence of what will make men happy.

Strauss comes close to putting his finger on an important difficulty—the apparent conflict between the hedonistic motivation to good and the pretended objective basis of obligation in the will of God—but he fails even to give a proper analysis of the

[19] Strauss's reference is Bk. I, ch. iii, sec. 3. The reference I have given is to Fraser's ed., I, 67. Fraser misnumbered the chapters of Bk. I; thus what is chapter iii in the standard edition of Locke's works is chapter ii in Fraser.

problem. He claims that the law of nature cannot be known as a law of nature, since the sanctions for it are rewards and punishments in an after-life. Reason cannot know that there is an after-life. Therefore, it cannot know the law as a genuine law (pp. 203-204). The issue of hedonism within Locke's moral framework (an issue which caused his own contemporaries trouble) is quite independent of the certainty of immortality, although Locke never had any doubts about immortality. Locke did not see any conflict between the objective status of the laws of nature as God's will and the rewards and punishments which enforce that law.[20] Neither did he find any conflict between talking about what man's rational nature required and what God demanded. Most subsequent critics have felt these two strands (hedonism and rationalism) to be incompatible with the objective grounding of the law in God's will. John W. Lenz, in a discerning review of von Leyden's edition of the *Essays*,[21] points out the obvious compatibility. There is a clear difference for Locke between obligation and motivation. The law of nature obligates because it is the will of a superior. A right is the free use we have of something, while a law is the rule which enjoins or forbids the doing of something.[22] Rights are those acts men are allowed to do by the precepts of the laws of nature. The things these laws require are obligations. The relation between right and obligation is that we are obliged to do what it is right for someone to require us to do. It is the recognition of this relation between right and obligation which should be the proper moral sanction leading us to meet our obligations: "not fear of punishment, but a rational apprehension of right puts us under an obligation" (*Essays*, p. 185). But the rational apprehension of right is insufficient to motivate us to action.

That thing binds "effectively" which is the prime cause of all obligation, and from which springs the formal cause of obligation, namely the will of a superior. For we are bound to something for the very

[20] See his letter to Tyrell, 4 August 1690, in *King*, I, pp. 366-373.

[21] In *Philosophy and Phenomenological Research*, XVI (1955-56), 105-114.

[22] The requirements for a law are three: (a) it must be the decree of a superior will, (b) it tells us what "is and what is not to be done," and (c) "it binds men" (*Essays*, pp. 111-113).

reason that he, under whose rule we are, wills it. That thing binds "terminatively," or by delimitation, which prescribes the manner and measure of an obligation and of our duty and is nothing other than the declaration of that will, and this declaration by another name we call law [*Essays*, p. 185; cf. p. 113].

Lenz also quotes the "voluntas" comment which von Leyden refers to (*Essays*, pp. 72-73) to show the split between motivation—that which moves the will—and obligation in Locke's position. As Lenz remarks, we may object to Locke's denial that obligation is insufficient by itself to motivate, but he correctly discerns the relation between obligation and motivation in Locke's theory: it takes the expectation of rewards and punishments to lead men to *obey* the dictates of the law of nature. The laws of nature are not, as they were for Hobbes, the *consequences* of the desire for rewards and the fear of punishment.

IV

There is no condition or situation of man which should not be controlled by the obligations of the laws of nature. Man is by nature social, inclined to live with others; but there are various kinds of social groups: man and woman, the family, the tribe, the more complex forms of government. Each of these groups has its own special aims and structure which is not transferable. In each the laws of nature can be violated or perverted. Locke's concern was with indicating what the valid objectives and relationships in society are. His analysis is normative, not descriptive. The rules he lays down in the *Essays* apply to all groups of men. The different kinds of society vary not in these but in the social structure or in the locus of power. The largest area of difference in social structure between one form of society and another arises between those we commonly refer to as governments, as political units, and those others such as the family or tribe. Locke uses the phrase "civil society" to designate the former. All the other forms of society are grouped together under the heading of "state of nature." When he does not want to talk

about civil societies under their political rubrics, he designates them as "commonwealths."[23]

There has been some confusion over the meaning of the phrase "state of nature." Some people think Locke to mean some condition of primitive man. Locke himself occasionally seems to put the question in this form, as when he tried to meet the objection: "that there are no instances . . . of a company of men, independent and equal one amongst another, that met together, and in this way began and set up a government" (T II, 100-106). But his more considered answer to this kind of objection occurs much earlier in the *Second Treatise*.

> It is often asked as a mighty objection, where are, or ever were, there any men in such a state of Nature? To which it may suffice as an answer at present, that since all princes and rulers of "independent" governments all through the world are in a state of nature, it is plain the world never was, nor never will be, without numbers of men in that state. I have named all governors of "independent" communities, whether they are, or are not, in league with others; for it is not every compact that puts an end to the state of Nature between men, but only this one of agreeing together mutually to enter into one community and make one body politic . . . [14].

There are very explicit agreements which characterize the transition from the state of nature into the civil society (T II, 87, 89). It is, in other words, not just the primitive forms of social groups which are in the state of nature: even very complex political units, such as monarchy, are in a state of nature (T II, 91). It might be more correct to say there are two concepts of the state of nature in Locke, the semi-romantic one of the primitive man and the other one which includes all social organizations not yet up to the specifications of the civil society. The latter concept is the one that is more politically significant and the one which marks the proper contrast with Locke's civil society.

[23] Strauss is confused about these terminological distinctions. He says (p. 225) that "society" is synonymous with "civil society." Social organization for Locke arises in many ways, naturally and inevitably, but civil society is one very special form of social organization. Locke does sometimes speak of "society" where he means "civil society" (e.g., T II, 131) but this is clearly only a loose way of speaking.

In all forms of the state of nature the explicit and specific consent of the governed is absent. For similar reasons the relation between political units is a relation of a state of nature, since there is no contractual or consenting agreement (T II, 183). Were all nations to form a United Nations, controlled by the proper contractual agreements, Locke would then say that we had an international civil society. But at whatever level, the contractual agreements must be controlled by the laws of nature; a man may not properly agree to give up more power than he has under the laws of nature. For instance, he may not agree to give the legislator authority to take his life or property for any other reasons than those already specified by the laws of nature; if he violates the laws he may be subject to the denial of possessions and life. The power and structure of the civil society is strictly determined by the normative conditions of the laws of nature. Locke was fond of repeating that the sole aim of the civil polity was the protection of the rights of men accorded by the laws of nature. The only reason for moving out of the state of nature is the inconvenience of a proper and just application of the laws of nature. The laws are unwritten, each man is his own judge, there are no appointed judges to make and apply objective judgments in accord with stable law. These deficiencies in nature determine the positive functions of the civil society.

In line with his Hobbesian distortion of Locke, Strauss has to make Locke's state of nature as nasty and brutish as Hobbes's. Accordingly, Strauss plays upon those phrases used by Locke which characterize the "uncertainties" and "inconveniences" of the state of nature (pp. 224-225). Locke meant to contrast the settled, just, and harmonious conditions of civil society with the disordered and uncertain conditions, even perversions of the laws, in the state of nature. But Strauss takes this contrast so far that he can say "the state antedating the civil society is the state of war" (p. 225). Most of the references Strauss gives at this point find Locke setting up the opposition between civil society and the state of war;[24] Locke never identifies the state of war with the state

[24] Strauss also claims that Locke's state of nature was a condition of penury. But his reference to T II, 32 (the chapter on property) speaks of a period of plenty. T II, 37-38 also talk of plenty, not of penury. Sections 41-43 compare

of nature. Locke was not so naive as to believe all men act rationally all the time. He carefully makes his civil society a society of rational men. The theory of punishment, which seems so harsh, was motivated by his firm conviction that the laws of nature specify the conditions for humanity. To violate these laws is tantamount to renouncing one's humanity. Some men are perverse and self-seeking but it is a gross misreading of Locke to claim he really believed that life in the state of nature (at whatever level) resembles Hobbes's war of all against all. The reasonable man will discover the laws of nature and will strive to order his life in terms of them. The state of nature is characterized by the inconveniences of no written law, no just and reasonable administration of the law, even by whole groups seeking to interpret the law in their favor. The state of war "is a state of enmity and destruction; and therefore declaring by word or action, not a passionate and hasty, but sedate, settled design upon another man's life puts him in a state of war with him against whom he has declared such an intention" (T II, 16).[25] The state of nature, even in its primitive forms, is not characterized by every man having these deliberate designs upon others. In his *Letter on Toleration*, Locke spoke of the "pravity of mankind being such, that they had rather injuriously prey upon the fruits of other men's labors than take pains to provide themselves."[26] He even traces the need for civil society to this depravity of man. But the perversity of men was for Locke a deviation from the norm, the state of war was sharply and carefully differentiated from the state of nature, and the state of nature pertains to many complex political units organized on principles other than those of Locke's civil polity. There is no ground at all for equating Locke's concept of the state of nature with that in Hobbes. At whatever level we wish to examine the state of nature, the situation requires a move into

America with England, arguing that the English have been more industrious and hence have greater convenience. Locke nowhere says that "plenty requires civil society."

[25] It is just because such a declaration of enmity and destruction violates the laws of nature that the individual making this declaration can be punished so harshly. Strauss does not even seem to understand Locke's views on punishment; see p. 223, note 84.

[26] Gough's ed. (Oxford, 1946), p. 152.

the civil society. Men in primitive social organizations have insufficient direction and safeguards; those in the more complex political units have the wrong sort of direction and safeguards. In short, the concept of the state of nature is a normative device used by Locke to indicate the deficiencies of all forms of social organization save that of civil society. The criteria for judging of social inadequacy are the laws of nature ostensibly discovered by Locke's intuitive reason.

V

Consent is the central device controlling the move from the state of nature into the civil society, consent to allow a formal governmental framework to assume the rights and powers of every man in the state of nature for the sake of security and possessions. The "good of the people"—a phrase frequently used by Locke—refers to the private goods of property: self and possessions. Civil society functions as a protection of private interests.[27] The contrast between the private, inner nature of man and the external, public action is a pervasive characteristic of Locke's philosophy. In theory of knowledge, the private ideas of each man stand in sharp contrast to the public external world of physical objects and events. Language functions as a medium between my private ideas and your private ideas. Ideas, if they are real, point outward to that which is not idea. Words, if they are to communicate knowledge, must mean more than my particular simple and complex ideas. In social theory, the individual living in the state of nature discovers the laws of nature by the use of his own senses and reason; he decides when violations have been

[27] The extreme form of individualism suggested by Locke's analysis of society is tempered in several ways. (1) One of the laws of nature demands that each man aid in the preservation of others; another says we should comfort a distressed neighbor; another that we should feed the hungry. (2) Locke insists that his civil society can function successfully only where majority rule decides. Society must operate as a unit: it must have one will (T II, 212), the members must be "united and combined together into one coherent living body" (T II, 212, cf. 96). (3) In the *Letter on Toleration*, he speaks of "the peace, riches, and public commodities of the whole people," goods which presumably are in addition to the private possessions.

made by others, and he may judge and punish without any further reference outside himself. The bonds of society in the state of nature depend upon the individualistic application of private judgments and private obligations. The decision to replace the natural by the civil society is again a personal decision on the part of all the participating members.

There is even a further parallel between the theory of knowledge and the social theory in that, in both cases, publicity enters into the analysis by way of protecting the privacy of each individual. In theory of knowledge the public world of objects is invoked as a means of justifying the validity and usefulness of knowledge in terms of ideas. In the social theory, the public world of government is invoked as a means of protecting private property. Similarly in the sphere of religion, true religion is distinguished from false religion just in the difference between the appeal to the private nature and beliefs of man and the public attention to external forms of behavior. "All the life and power of true religion consists in the inward and full persuasion of the mind; and faith is not faith without believing."[28] The doctrines necessary for a true Christian believer—the laws of nature and the belief in Christ as the Messiah—are doctrines which anyone can accept without reference to priestly intervention or ritualistic observances. Religion is a matter of each man's relations with God. Moreover, the sole objective behind the formation of religious societies is to further the salvation of each man's private soul. Once again society functions to protect privacy. The sole connecting bonds of the civil society are such as relate to the protection of private property. The sole connecting bonds of the religious society relate to the "expectation of eternal life."[29] The continuity between individual action and subsequent social action is found in the fundamental moral injunctions of the law of nature; that is, the continuity occurs when human action is functioning properly. Without the laws of nature, and without the contractual consent of the members, no social organization for Locke can be morally acceptable. The justification of his civil society over other forms of political units is found in appeal to the laws of nature. The laws

[28] *Toleration*, p. 127.
[29] *Ibid.*, p. 129.

of nature are the archetype and measure for civil laws: no change or alteration in these basic laws can be tolerated. The laws of nature express the will of God and indicate the normative foundation for all subsequent forms of society. Like the private ideas of the particular knower, the laws discerned by reason with the help of the senses are inviolate. Society may express these laws well or poorly; it cannot violate them and remain a moral community.

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FORM AND MATTER, II

I HAVE discussed the supposed traits of form and its degrees with little mention of the counterpart matter, not because it is easy to behold the latter in the mirror of the former but, on the contrary, because their relations become so very obscure and askew. The diversity of fundamental meanings for "form," even if we count only the grand three—character, structure, and organization—was bound to create at least corresponding diversity about the correlative "matter." But the same indecision about "form" naturally generated indecision also about the correlation itself and hence still more indecisions about the correlate.

The three principal affirmative versions of the correlation and hence of "matter" follow upon the principal notions of "form" by the rule that matter is what *has* form. If form is character, matter is the subject of characters. If it is structure, matter is the content or terms. If it is organization, matter is the content again, with the proviso, however, that this may be either the individual terms or subordinate complexes of relations. The most tragic deviations from this central set of meanings are in the direction of negation. Matter as content is "the opposite" of form in the affirmative sense in which partners in a barn dance are "opposite," and also in the harmlessly negative sense that the hylomorphic relation is asymmetrical, so that if *a* is form for *b*, it cannot be matter for *b*, though it may be matter for something else. But now we are tempted to think of them as so "opposite" that one is or entails the negation of the other: first, and more mildly, that matter is that which *is not* form; secondly, and more wildly, that matter is that which *has not* form. By the original positive accounts, in other words, matter is what "enters into" some form. By the first negative account it is that which form does not "enter into"—as it does not, by hypothesis, into prime matter and presumably not into simple qualia. By the second negation it is what enters into no form, a concept which in the absolute has no Aristotelian application, since the theory does not admit of matter wholly divorced from form, but occurs relatively, in that an entity is more or less "material" in proportion as it enters

respectively into less or more form. We might even add a fourth stage, not merely that matter is not form and has not form, but that it is a militant force against form, spoiling it, emitting and inducing formlessness. Mostly, however, this frequent Aristotelian suggestion can be accommodated by another distinction of meaning which cuts across the foregoing. For while Aristotelian "matter" generally denotes the entity, part, or component which performs the roles I indicated (that which has form, for example) —matter in the concrete—it often seems to mean just the role itself in the abstract (the relational status of having form, for example). The sophisticated claims made for this distinction seem generally unjustified; it is readily eliminable by systematic paraphrase. But it does let us identify "matter" in the second negative sense with the status of *formlessness* itself, and it is quite Aristotelian to think of formlessness as the cause of a thing's being formless (cf. 991a 15, 1041b 5).

The overarching effect of the negativistic notions which oppose matter to form is that matter by and large is assigned "derogatives" where form has prerogatives. The chronic implication is that form and matter vary inversely, that the more form the less matter and the more matter the less form, or even that the presence of matter is the absence of form, and conversely. In so far, then, as form can be equated with intelligibility, actuality, and value, matter must be equated with their opposites. But none of this, which Aristotle sometimes briskly repudiates of his own accord, has any visible excuse except the negativities. It is a triviality that if "matter" means what is not and does not involve form, then for an entity to be matter precludes its being form, and if "matter" is what is formless, or is formlessness itself, then being or having matter precludes having form. It is an equal and opposite triviality, however, that if "matter" means what has form, that is, stands for the referent of the hylomorphic relation, or subject for predicates, or content for organization, then being matter *entails* form. We can fairly say then that "matter" as subject is *more material* if it has more form, as we could say that a man is more paternal if he has more children. And "matter" as a set of terms for a structure will in general be more numerous, and in this sense *more matter*, as the structure contains more

relations. Since all form is the *matter*'s form, moreover, the matter strictly owns the ultimate title to and credit for whatever intelligibility, actuality, or value the form can provide.

Thus inoculated against a general negativism, let us look more particularly at the most celebrated functions ascribed to matter, under the three heads (1) indeterminacy, (2) individuation, and (3) potentiality.

"Indeterminacy" I borrow from today's scientific dialects, to cover both indeterminateness of character and indeterminism of action or effect. The description of matter as indeterminate results very directly from the illusion that matter must be inverse to form. If prerogative form is the definite, rich, and concrete, *and* to be matter is to lack form, then matter is the indefinite, poor, and abstract. Strictly, no doubt, degrees of determinateness pertain to predicates and not to subjects, whence Aristotle's saying that the genus is matter in comparison with the species and differentia, and all mundane forms are matter in comparison with Divinity. But we might say in a derivative sense that a term or thing which includes or involves less form, or a set of things which has less form, is "less determinate" and hence is "matter" in comparison with such as include or have more form. We come out in either event with either a mere extension of a use which deliberately redefines "matter" to associate it with deficiency, or a grave and obvious error about the implications of those traits by which "matter" was primarily defined. Truistically, the status of being "matter" in the sense of subject for predicates or content for structure does not imply, but is the diametrical opposite of, lacking form in the sense of not having form. More important, it by no means implies a lack of form even in the sense of not *being* form, for the now familiar reason that the terms of a more inclusive form almost certainly contain, and quite possibly *are*, finer forms than the inclusive one. If then we are to rely on any association between being "matter" in the original sense and "matter" in the sense of including little form, this must be at the bottom of the hierarchy, with prime matter. Here pre-eminently is "matter" in both those senses, but even here its poverty and indefiniteness are mostly an affectation. Prime matter may be

"unintelligible" in the sense that there is some ultimate absurdity in the theory of it, or "vague" in the sense that we are vague about it, but its role in the theory does not postulate that it is unintelligible except on the principle, arbitrarily appended, that only characters are intelligible. Not being a character, it is not strictly either determinate or indeterminate, and neither concrete nor abstract, but it has its own brand of perfect definiteness, being elegantly and exactly its substratal self, with a more distinctive and momentous function to discharge than most forms. And far from being strictly "formless," of course, the sum of prime matter has or enters into all the forms there are. Aristotle's one way of conceiving this substratum which *is not* form is to "strip away" (1029a 11, etc.), that is, abstract from, the forms which it has; but it keeps right on having them, and indeed the rule is that the fewer forms enter into the subject with which the abstraction stops, the more forms it enters into. Even the usual infidel objection to prime matter, therefore—that it is "characterless"—is as vain as blushing for a drum major because he is naked under his clothes. Prime matter does not include its characters any more than the drum major includes his clothes; but as being under one's clothes is just what we mean by not being naked, so being a subject of predicates is what we mean by not being characterless. If there is anything which does not have form, it is those highest forms which are matter for no further forms, as it is the major's uniform, if anything, which is naked.

There remains the obscure but important Aristotelian suggestion, not just to the effect that the matter-component of a concretum is itself indeterminate, so that it makes only a mean contribution to the determinateness of the whole, and not just that matter *is* the indeterminateness of the whole, but that matter is, as it were, a real entity but a negative entity, like a negative charge or a negative number, which neutralizes and obliterates, saps and subtracts from, a local quota of form. Prime matter in particular is supposed to emanate this ontic death-ray. The whole conception seems a combination of the negativistic idea of matter with certain typical behavior of proximate matters, "the doltish clay," for example, in its resistance to the sculptor's ideal, and the latter observations remain the principal if not the only

source of its plausibility. Aristotle knows, however, that they do not really exemplify it, because what is baffling in the clay is neither mere inertness nor a resentment of form in general, but a distinctive form and character, far surpassing in delicacy and determinateness an artist's plans, fighting back at his purpose as the nature of a piece of wood is positively opposed to making, or anyhow to remaining, a saw, yet ready to be correspondingly collaborative with other designs, as the clay lends itself perfectly to subtle ceramic textures and certain steels fairly cry out for sawhood. The most that Aristotle can decently urge, therefore, is that *prime* matter really and generally does what proximate matter only seems to do or does only in relation to particular designs. Prime matter blunts or blurs the forms which invest it and degrades their joint concretum.

If anything could be queerer, on second look, than the view that *having* characters makes an entity characterless, it would be this view that *being had* makes the characters uncharacteristic. The very notions here, first, that a form can be blurred, and second, that it still can be the same with some unblurred form, are almost inscrutable. A form, being a character, must be exactly *the* character it is, and if it is not exactly φ, then it is exactly some other character, say ψ. We still may conjecture, to be sure, that the presence of the matter results in the occurrence of a lower-grade form, less determinate or less systematic. But why? And lower than what? Matter was postulated as the *sine qua non* condition for there being any form. We hence cannot intelligibly say that there would have been better forms in a given situation if there had been no matter, for it is not just physically but metaphysically impossible that there should then have been any forms at all. And again, even if we could surmount this difficulty, since the whole original content of the notion of matter was that it supports the forms, it is a wanton reversal to say now that it lets them down. We do say, of course, that a drug keeps a man alive while it kills him, but a drug and a man are infinite complexes of diverse characters which can combine toward diverse effects at different periods; form and matter are ultimates in abstract principle, and to assign two contrary functions to matter is to be talking about two opposed principles. If we must insist on some such extra

effect, we might more plausibly have said that matter sharpens and heightens the forms than that it dulls or depletes them, but in truth the only coherent doctrine is that matter does nothing to them except embody them, just as they are, the thin and the thick, the degraded and the exalted, the blue and the green. If mattered forms average pretty low, this is no fault of the matter but a naughtiness of the forms.

We naturally try to give significance to the statement that the forms would be better if they existed without matter by citing Aristotle's doctrine of pure forms which *are* better. Quite aside, however, from the intrinsic impossibility of forms without matter, and from the poverty of evidence for them even if we admit their intrinsic possibility, Aristotle has no reason whatever for thinking that they would be especially "perfect," nor that if there are perfect forms they must be matterless, except the prepossession now moot, that matter is somehow detrimental to form. Rather more plausible, again, than the extra notion that the best forms dispense with matter, would have been the opposite—that while some few meagre and awkward forms can slop along without matter, the great and exquisite forms have special need of its sustenance.

As so often, Aristotle here too supplies his own corrective, though again at the cost of more incoherence. As he is very clear about the frivolity of the theory of matterless forms when he is kicking out at Plato, so he can be severe on the idea that matter, proximate or prime, is intrinsically degrading when he finds someone else asserting it. Thus he decisively opposes matter to privation (190b 15, 192a 5, 1029a 25), and rushes indeed into the arms of the romantically opposite deception—not, perhaps, that matter sharpens the forms instead of blunting them, but that it anyhow positively yearns for form "as the female desires the male" (192a 23).

On principle we ought safely to be left to deduce the relations of indeterminateness and indeterminism from what has been said, here and there above, about determinateness and intelligibility, actuality and activity. That if matter is indeterminateness, it implies indeterminism, is vaguely credible on our vague old empirical principle that less form, by and large, has less force.

But there are convolutions of the theory not so cheaply disposable. One thing which interested Aristotle in this connection is what interests our contemporary quantum physicists, the interference of indeterminateness with that cash value of determinism which is reliable regularity. Granted that there are objective indefinitenesses, as the physicist seems to hold along with Aristotle, it "stands to reason" that in so far as an object or event is indefinite, it cannot have a definite effect. I think that this is a delusion, and that indefinite causes might have perfectly definite effects; but even if cause and effect must be equally indefinite, there might be a perfectly regular determinism between them. It is at least as easy for a blurred cause to comport infallibly its characteristic blurred effect as for a very specific cause to have its very specific effect. Aristotle's main application of the idea of indeterminism is, of course, to the disconnection he alleges between the essence of a thing and its accidents. His intimation that the matter or "potency" operates specially and directly on the accidents, making them not just undetermined (1027b 15) but indeterminate (1049a 35), seems to be a plain mistake, since the essential qualities, to which he does not impute like defects, are exposed to exactly the same matter. He must think of the matter as a baleful interference, a sort of baffle, *between* the essential form of a thing and its accidents. Taken in a trivial negativist way this might mean only that the matter consists of the inorganicness of the substance, which in turn is just the fact that not all its content is governed by one systematic form, which again, of course, is just to say that the *form* has failed.

There is a profounder way, however, in which "matter" in a wholly different affirmative sense may fairly be held responsible for some disjointedness and contingency. For true substratal matter, by supplying a peg for many predicates to hang on, makes it possible for forms intrinsically discrete, without necessary connection, to be associated extrinsically. This expresses in the frame of Aristotle's principle of pure particularity the truth which Plato, Leibniz, and Santayana have all expressed by describing existence as the source of contingency and external relation. The element of accident then may be said to be constituted not by deficiency of form but by too many concurrent

forms. Though matter as substratum not only permits incoherence of predicates but forbids that all of a concourse of predicates entail one another, still it does not require incoherence—it is compatible with the whole thing's being perfectly organic if the *form* is up to it. We find even Aristotle, in fact, on occasions when he has warmed to the scientific ideal, suggesting that accident is only an appearance, and that perhaps the ostensible accidents have laws and links of their own (1027a 25). He hardly goes so far, however, as to propose that there are unknown forms and laws which govern all the ostensible essences and accidents of all things together, which would have been no mere gloss on his fundamental philosophy but an apostasy to a very different scheme, that of Democritus and Galileo. More often, warmed by his romanticism, he exults in contingency as real but really good, because it makes our choices free (*De int.*, 19a 7).

The second of our three most vaunted traits of matter, individuation, is the one most firmly bottomed on a fundamental and affirmative idea—the idea of matter as the substratum and ultimate subject of characterization. Though some scholars would dispute whether Aristotle believed that matter is the principle of particularity, the texts make as plain to the innocently curious reader that to be the same in matter is to be "one in number" as that "oneness of form" is the identity of a universal (e.g., 1016b 32, 1033b 30, 1034a 7), and indeed each of these implies and requires the other. It is less than self-evident that the need for a nuclear substratum to "individuate" by upholding and holding together characters in a more or less peculiar bundle is the same as the need for a principle of particularity which "individuates" by providing that things evincing exactly the same characters may yet be distinct. The connection, however, is generally affirmed by persons who try to satisfy either of these needs, and confirmed indirectly by those moderns who shudder away from both of them. And I think that in ontological fact the concurrence of characters does involve necessarily their particular occurrence. The idea is not to be impugned, either, by the usual plaint that if matter is perfectly indefinite it cannot exist in definite, that is, distinct doses. For the substratum, we observed,

though it only *has* characters and *isn't* one, either definite or indefinite, is definitely itself, and what the theory imputes to it is exactly not identities and differences of *kind* but identities and differences of *case*, which are all and only what is wanted of a principle of individuation.

I shall have to let it remain obscure how Aristotle conceives this particularizer to operate—whether all the forms in a thing are particularized by the same matter, or each by its own wisp of matter, and whether the particularizing consists of the forms' remaining universals but attached to a particular matter (as the textbooks suggest) or in the matter's actually turning each form itself into a particular event (as the Thomists seem to say). The one bald hiatus in the theory seems rather to be made by an addition which generally passes without comment: Aristotle's belief that the same original cosmic endowment of matter persists through endless flux and reflux in the world plenum. This most important part of the theory, alleging that numerically identical doses of individuality can be present in temporally different episodes, I think is quite inconsistent with the grounds for postulating that distinct doses are present in spatially different things, and it certainly is not entailed by the latter.

Some such notion of matter as nuclear substratum is at any rate the only phase of the doctrine of matter which does anything for individuation. The other and principal affirmative notion, that matter is content for form, will not do it. Since qualia are as much universals as structures are, a pattern of qualia in relations—the pattern of the American flag, for example—is itself just a complex universal. In Bertrand Russell's and Nelson Goodman's accounts of the structure of appearance, indeed, the qualitative stuff is universals while the structural character of compresence or togetherness is in effect the individuator. Certainly "matter" as sheer deficiency of form—as abstractness or indeterminateness—is the opposite of what the office requires, since the indeterminate forms are the most *general* ones. The dreary Aristotelianism, that a generic character is "matter" relatively to the specific difference, is exasperating for the same reason for which the Tree of Porphyry very credibly shows the genus *above* the species and the mattered particulars—or, better, their total concrete characters—*below* it.

The presence of the particulars, or concreta, at the roots of the Tree reminds us again of how much more ingenuously the principle of matter is to be associated with concreteness and surfeit than with abstractness or indeterminateness. "Concreteness" brings to our topic a host of meanings, all involving however some intimation of realness, solidity, body, heft. Some of this is provided by particularity, some—in Scholastic systems which diverge from Aristotle at this juncture—by existence. But mostly it is provided by what "concrete" means most literally and professionally: the aggregation of characters into very determinate solids, *supposita* as the Scholastics say, with all their perfections, essence and accident combined. These are prerogatives much admired by Aristotle, despite his frequent Platonic transports over the elegance of form; and these are supplied ultimately by matter. Prime matter engenders concreteness at the same time as it provides particularity, not because particularity is concreteness, but because by being the occasion for predicates, prime matter permits that concurrence of predicates which is concreteness. The consequent association of "matter" with the opposite of indeterminateness, with fatness of form, is encouraged by the use of "matter" for proximate matter, because the proximate matter of a given form is generally much more determinate than the form. This is true of the structured terms of a structure, "proximate matter" in the most traditional sense, but it is true too of the analogous "proximate matter" which serves generally as a subject of predication. For as the essence or substance is predicated of the prime matter, Aristotle tells us, so the accidents are predicated of the essence (1029a 19-24, 1038b 5), that is, of the sum of the essential form with prime matter. If then to be matter is to be subject, the essence is thus matter for the accidents. And he comes very near to saying, what would naturally follow on this, that the true proximate subject of any character in a concretum is the not-quite-concrete total of all its form and matter *except* this recruit. The highly determinate subject sum is thus "matter" for the character, which adds determinateness and actuality, therefore, not because it is anywhere near as determinate as its subject, but only because its sum with the subject is more determinate than the latter alone. The naturalness of this mode

of thought, even for Aristotelians when they don't hold a tight rein on their faculties, is what makes the modern positivist think that the concrete clump of characters, cohering of their own gravity, is all the subject or substratum we need for either individuation or concreteness, and it makes me suspect that in psychological fact at least half of Aristotle's notion of indefinite or formless matter is derived from a vague feeling of the caked superfluity of form, too abundant for us to sort out, which looms behind any one form we may at the moment bring into focus. But to take seriously the hints of this in Aristotle would be again to reverse his most characteristic themes, and to transmogrify him into a very different and modern sort of philosopher.[1]

I have kept to the last the most famous and closest of the supposed affiliations of matter, namely, with potentiality, so close that we are told sometimes that they are identical *simpliciter*, sometimes that the distinction of potentiality and actuality is the dynamic aspect of the same principle of which matter and form are the static aspect, often, though rather more explicitly by Aristotelians than by Aristotle, that potency and act are the ultimate, most general, contrast or polarity of which nearly all other metaphysical polarities, including that of matter and form, are specifications—or even that potency and act are the objective and ontological fact of which form and matter are merely logical reflections, creatures of reason. If this equation deserves to be put last, however, because of its importance, it requires it too because it proves the most strained and incongruous addendum, the hardest to understand and defend. Nor is this surprising, since here most notoriously we are up against the almost mystical rites of analogy (1048a 35).

Our trouble begins on the threshold with the bare effort to attach a usable meaning to "potentiality." The classic examples

[1] The one apparent way to reconcile the two Aristotles is by the help of a third Aristotle latent in the strain of pragmatic operationalism which often turns the edge of his ostensible realism. As he says the parts of a thing exist only potentially until we part them, so he might say that forms *in re* are actually a blur, and not clear nor forms till we clarify and formulate them. But there is no practicable stopping place on this route short of a complete subjective idealism for which the Ego posits everything.

in Book Θ of the *Metaphysics* are an unusually motley lot, and we wonder what they exemplify, since Aristotle says they exhibit "potentiality" in different senses. He distinguishes this difference from mere equivocation, however, so he must think they are at least generically the same, or, as he says, "of the same type" (πρὸς τὸ αὐτὸ εἶδος—1046a 9). Even the most general and sensible prescription, that the potential is what can be, what is not impossible (1047a 23), is promptly contravened by the instance of the infinite, which is potential but impossible (1048b 14). The contradiction here, however, seems the fault rather of Aristotle's desperate polemic against infinity, and I think we have the weight of doctrine and of ordinary Greek on our side if we say that "potentiality" is intended to metaphysicize the grammatical distinction of mode between what *is* and what *can be* as two primitive modes of being (1048a 34), systematically related but mutually irreducible—for though Aristotle has a list of ways in which actuality is prior to potentiality (1049b ff.), there are plenty of ways in which potentiality is prior to actuality (199b 7, for example). Let us make bold then to specify that in the typical potentiality situation there are what I shall call a "subject" or "origin" *x* (an egg, say), which has the potentiality, and an "objective" or "outcome" *y* (a chicken, say), for which it is a potentiality. In English we may keep the corresponding adjectives attached to the right nouns by saying that *y* is "potential" or "has potential being" or "is potential in *x*," while *x* is "potent" or "is in potency for *y*" or even "is a potential *y*." We are not consistent about it, however, and the Latin, and perhaps still more the Greek, seem often to tangle the threads badly.

The crudest way in which Aristotle connects matter with potency is to say that matter itself is potential or exists potentially (1042b 9, 1050a 16, 1071a 10), a proposition reaffirmed from quite another direction by his ostensible views that matter and form are parts of a thing and that parts do not exist actually but only potentially (1017b 6, 1039a 5, 1048a 30). The latter pretty well discredits itself by implying that form is just as "potential" as matter, but the notion that matter is potential is surely absurd anyhow, precipitating us into a bottomless pit of nonreality. For the point of the theory is that the form begins by being merely

potential in a matter which, though *potent*, if you like, is actual, and only eventually winds up by being actual itself. Matter "exists in potency," then, just in the sense that it is specially involved in there being potency. Either it is pre-eminently the vehicle or subject of potentiality, or it *is* potentiality—two doctrines we need not differentiate now any more than we did earlier the notions of "matter in the concrete" and of matter as role or principle.

Aristotle says that potency is an ἀρχή, a source or beginning (1019a 15, 1046a 10), but this is probably better edited to read that having a potency for *y* is the same as being a source of, or containing a condition for, *y*. "Condition" I say because Aristotle surely thought that every potency must have a distinctive ground in the actual constitution of the subject, though not that the potency *is* this ground. On how much of a condition this shall be, his testimony is conflicting. Sometimes the mere absence of any insuperable adverse condition will suffice, sometimes there must be almost enough of a condition to precipitate actualization (1049a)—though ever not quite. Modal logic might urge on us that if *x* not only can but must be *y*, or actually *is y*, then a fortiori it is potentially *y*: thus indeed saith the ancient axiom, *Ab esse ad posse valet illatio*, for which Aristotle vouches in *De interpretatione* (23a). Metaphysically, however, whether by arbitrary definition or philosophical insight, he seems convinced that *y* is potential only so long as it can be but isn't and needn't be.

If matter is peculiarly the home of potentiality it must peculiarly provide some such "source" as we have been prescribing. Prima facie, however, the proposition that matter and form are the same as potentiality and actuality seems as gratuitous and repugnant as that they are the same as left and right, as the Pythagoreans said, or the same as the Army and the Navy, as we might say. Part of the incongruity, however, is because we are thinking of potentiality and actualization as successive in time, while we thought of matter and form as simultaneous components of a thing *in situ*—all with excellent warrant from Aristotle, who generally treats of actualization as a subsequent phase, yet has officially contrasted the material and formal "causes" as contentual, with the efficient and final as contextual. To bring

them abreast for the present teaming, he sometimes whips potentiality into line with matter by letting the former concur with its actualization after all: the shape of the statue, here and now, is the actuality of the potency inherent in its bronze. But more typically, of course, he forces matter into line with potentiality. Or rather, we might say, he has all along had ready another notion of matter, which often he pretends is the same, linked in the same analogy (191a 10), but then again somewhat sheepishly recognizes is different (1044a 24): the sense of "matter" in which the antecedent lump of clay or metal is matter for the eventual statue. Verbally the difference is concealed by our saying for both that the statue is "made of" the clay or metal, but metaphysically the function of the antecedent *ingredient*, in contrast with the contemporary *constituent*, is more like that of an efficient cause than that of the material cause. The two poles of a consummated potency-act, or matter-form, situation are now both occupied by complete substances (or states of affairs), each with its matter and form. There is so profound a difference, in ontological principle, between our original notions of matter and form as concurrent and the new one which makes them successive that if it were not too late for squeamishness we should have to chuck up the whole inquiry till their relations are clarified. Meantime we might at least be obliged to treat twice the assimilation of "matter" to potency, once for constituents and once for ingredients. Ancient wont, however, consoles us that the cases where Aristotle assimilates them are such as evince enough continuity between antecedent and consequent so that a disposal of the notion that matter is potency in the dynamic sequence will the more thoroughly discredit it in the static cross-section.

Another adjustment now needed to give the theory even temporary plausibility we have already made tacitly by our choice of specimens, which exemplify the capacity of a subject to *be* so-and-so rather than to do or make something. We have concentrated, that is, on so-called passive potencies, or "mere potentialities" as some Scholastics call them, in contrast to active potency or "power"—that is, on the ability to be affected rather than to affect. Though Aristotle makes some such distinction (202a 15) without saying outright that the equation of matter

with potency is valid only for passivity, he teaches so vigorously that active agency consists in the self-assertion of intense *form* that without the reservation our game would be over before it begins.

A momentous side-effect of these idiosyncrasies in the explication of potency is the association of potency with *change*, and hence the remarkable doctrine, which in fact is independent of anything we should normally impute to matter and potency, that since matter is the principle of potency it is the principle of change or motion, so that what has matter must change and what hasn't cannot. On sounder Galilean principles we see that it might well take as much passive potency inside, and as much active power outside, to maintain a thing in the same state as to achieve a different state, but for Aristotle only a *change* of state has or needs a source, ἀρχή, or δύναμις. This may be the key to the notorious definition which the modernist Descartes found perfectly opaque (*The World*, ch. vii), that change is the actualization of the potential qua potential (201a 10, 1065b 15). It would mean, then, in contrast with any modern or scientific view of causation, that potentiality for an objective *y* is *eo ipso* a potentiality for *becoming y*, so that the realization of any potentiality is "as such" a realization of a potentiality for change.

With all these amendments made, matter-and-form and potency-and-act still don't *seem* at all the same idea, nor even logically of the same order. The definitory relation in the first pair, for instance, is "transcendental," connecting entities of two types, and is irreflexive and intransitive. The relation in the second pair is not transcendental nor irreflexive, and is transitive; and any hierarchies they generate must be correspondingly noncongruent. A cynic might say that the principal resemblance between the two categorial pairs is that potency is not really "the opposite of" act any more than matter is really "the opposite of" form.[2] When we look for more serious and positive reason for linking them, without departing from every interesting or ordinary sense of "potential" and "actual," we must be prepared

[2] In spite of Liddell and Scott, the veriest vulgarian, looking at "dynamis" and "energeia" (q.v., in the *Lexicon*), would know that they cannot stand for opposites.

to be asked to impose some further extraordinary and uninteresting senses on "matter" and "form."

A mode of argument by re-definition too crass to be effective would be to decree directly that the word "matter" is to *mean* potency. Less crass and direct would be to exploit the two senses in which a thing is said to be "made of" matter, so that since the statue is "made of" the metal lump, the lump is at once the potency and the matter for the statue. This would be significant if but only if we could establish, after all, that the potency of the antecedent lump is due to its "matter" in some of our other senses, either because the lump as a whole is more matterish than the consequent, or because the "matter" in the lump, however much or little, is what particularly does the job.

Now it is unmistakable that the twinning of matter with potency, born of such instances as the acorn and the oak, remains most at home with the lumber and the house, the bronze and the statue. These exemplary situations are ones where we can observe some prominent proximate matter, either content for structure or subject for predicates more generally, lasting from one state to another, and where the ontologist can credibly guess that the underlying prime matter does the same. Since both proximate and prime matters are conditions or ἀρχαί for the consequent, we can say that they embrace a potency for it, and since by persisting they are earnest that some*thing* has changed rather than just that a new event has taken place, we can say too that the matter is the spring of change. But it is, as it were, an accident that even in these most favorable of cases the connection of potency and change is with matter. In the first place, change, as the occurrence of new characters, does not require the persistence of anything at all through the change, except in so far as we are enough more interested in cases where there is persistence so that the Aristotelian can badger us into not *calling* the others "change." The strict fact is that although there must be persistence in order for a *thing* to change, this is not because *change* requires persistence but because *things* do, and trivially so. In the second place, if something is to persist, it needn't be the matter, either proximate or prime. In the cited instances, as it happens, the matter does stay put while the forms are swapped, but there are equally many

instances where the form persists and the matter is exchanged. And since some kind of form is no less a condition for matter than some case of matter is a condition for form, the enduring form must here be the vehicle and potency and the eventual matter its actualization. This is obviously true of proximate matter: though a log may keep its woody quality while sawed or nailed into different shapes, it may keep its exact shape and pattern while carbonized into charcoal or petrified into agate. Since Aristotle is patentee and proprietor of prime matter, we cannot appeal to observable facts against him here, but we can recall the serious ontological doubt whether units of prime matter conceivably could endure. And we can appeal to Aristotle himself, who on one hand generally explicates the persistence of a substance by the persistence of its substantial form, exactly as Russell would, while on the other hand he seems to go along with the Milesians and our moderns on the incessant circulation of the elements, so that though he thinks the cases or doses of stuff do endure, and that the same ones might linger through the vicissitudes of a single substance, they need not do so, and probably do not, and it doesn't matter, for we could no more tell whether they do or not than a modern man can tell how many atoms join or leave his body in a twelvemonth except by reading it up. If the thing thus can either change or not change its qualities while the matter either is exchanged or not, the notion of persistent matter does exactly nothing toward that "explanation" of change of which Aristotelians have boasted more, perhaps, than of anything else in their repertory. Specifically, of course, it is neither necessary nor sufficient for "continuity" of change, as it is often claimed to be: not necessary because forms can differ continuously while matter comes and goes, and not sufficient because forms can flick from one end of the spectrum to the other while the matter sedately stays.

The bonds supposed to tie potentiality with "matter" in the negative senses, with deficiency of form, are no less famous than those between potentiality and "matter" in the positive senses. And though they are as different as the negative and positive senses of "matter" are from each other, they are just as tenuous. Some of the belief in such connection must have been due to inadvertent

punning on the word "actuality." If determinateness is actuality, then indeterminateness is the opposite of actuality; but since potentiality is the opposite of actuality, too, potentiality must be indeterminateness. Quite aside from the ambiguity and inappropriateness of "opposite" here, the first "actuality" has one meaning, namely, richness or organicness of form; the second has one or both of two further meanings, close to each other but remote from the first: to refer to the "objective" of a potentiality, whether realized or not, and to refer to the realizedness. Even if all these uses of "actual" could still be proved to have some common core, this could be done only by proving that potentiality is indeterminateness, so could not help to prove the latter proposition.

Another specious connection of potentiality with deficiency is the fact that even the warmest champions of potentiality (being able to be) admit that it is not only a different but somehow a thinner, weaker, or slighter mode of being than actuality (real existence) (1047b 1).[3] A potential frog, if we mean thereby the mere potentiality for a frog, is thus less than an actual frog, and this makes us feel that the tadpole, in which the potentiality is vested, which the Scholastic says "is in potency," and which even we sometimes tactlessly call "the potential frog," must be deficient. If potentiality is in sooth a special mode of being, our premise here seems right enough, provided we reject the reasons which Aristotle sometimes suggests for the inferiority of the potential frog—that the potential is intrinsically indefinite, and indefinite because of indecision, objective or subjective, whether it will be actualized (for in fact potential frogs are exactly as definite as actual frogs, though the more definite the less likely the actualization). The conclusion does not follow, however, because no matter how thin the potency is in itself, it cannot subtract from the thickness of the actual tadpole, but must to some extent augment the latter.

Though an actual tadpole per se is richer in being than a merely potential frog, and an actual tadpole plus its complement

[3] "*The actual* [*is*] *something more perfect than the potential.*" P. Coffey, *Ontology* (New York, 1938), p. 58; his italics.

of frog-potentialities is more than the tadpole per se, still we might figure that an actual tadpole is *less* than an actual frog; and hence we might conjecture, not that the potentiality of the frog in the tadpole is itself a deficiency in the little fellow, but that it nevertheless is due to and augurs some deficiency there. Now, on the usual Aristotelian doctrine, the potentiality for froghood does require at least one signal deficiency, namely, of froghood, because in order to be potentially a frog it is necessary not to be actually a frog; and there is many an Aristotelian hint that this is sufficient, too, as if in general all that is needed to be potentially *y* is not to be *y* already. The former, however, is obviously a definitional triviality, and one which Aristotle sometimes repudiates (192a 25); the latter, its converse, is a paradox which he must generally repudiate, since it would destroy that distinction between the ability of a pumpkin to become a jack o'lantern and its inability to become a coach, which is the main object of the theory.

A little more promising is the prescription, not specifically that the desiderated form, the objective, should be lacking, but that the subject have a minimum of form of any sort. The idea seems to be that it is easier for a *tabula rasa* to receive an inscription than for one already inscribed. This is a metaphysical reflex of the exaltation of active potentiality or power, as if all the latter needed to effectuate changes in the patient is that nothing there should contest it. Thus, right down through Leibniz, passive potency is often thought of as weakness, submissiveness; thus too the perfect complementarity of the passive "omnipotence" of prime matter and the active "omnipotence" of the Prime Mover. But here too Aristotle corrects himself now and again. If potency is matter, it is not because either of them is mere privation (192a 4, 1055b 7). A man must work and study to acquire potencies (1047b 31). Maybe God could make something out of undigested prime matter, but all lesser agents require proximate matter with cooperative forms—like that tiresome steel for the saw (1044a 27). Unless we mean by "more potency" a potency further from realization, which is perverse, instead of closer to it, even a passive potency—and indeed a passive potency no less than an active—is "more" or "less" potency, not in proportion to any

general deficiency or indeterminateness, but according to the favorable or unfavorable balance of what determinateness there is. Even the prime matter which is needed to make any forms effectual has its potency not because of what it is not but because of what it is, a positive and indispensable support.

There is a difference between arguing that some special lack in a subject of change is what is responsible for its having a certain potency, and arguing that anyhow the subject or antecedent must always be deficient in comparison with the objective or outcome; but the latter seems no less mistaken. It is worth mention because of the inveterate implication in Aristotle, and even more among his disciples, that there are potencies only for ontic upgrading. This is a natural result of the teleology suggested by Aristotle's favorite paradigms (191a 10), which start with something "lower" and tend toward something "higher." If this were a true generalization it would be at least an empirical proof that potentiality is in just this respect vested in what is comparatively "matter" in the negative sense. It obviously is not a universal truth, however, since obviously not everything in every way every day gets better and better, nor even holds its own. Perhaps we cannot so much as define any such direction of ontic perfection as the notion needs; perhaps tadpoles, clay blobs, and acorns are strictly not any more amorphous than the frogs, busts, and oaks which they respectively become. Perhaps the old forms seem poorer only because they are "obscure and nameless" (1033a 14), that is, because of the poverty of our interest in them; perhaps the whole antecedent seems poorer in retrospect because all we remember of it is the bit of stuff which survives in the consequent, which bit is indeed poorer than the consequent as a whole, but poorer also than the whole antecedent. But even if we can define an objective inferiority, presumably by lack of organic completeness and coherence, and correctly impute it to tadpoles, clay lumps, and acorns, in comparison with frogs, busts, and oaks, respectively, still the latter are peculiarly telic peaks, the paths up to them are not typical, and there are paths going down from them, too. Frogs, busts, and oaks decline variously into carrion, shards, and punk, which are more amorphous again, and if they do this, they must have a potentiality for it. Aristotle

sometimes works as hard to deny that there are potencies for deterioration as the young Socrates did to deny that there are forms of mud and hair. We are not to say, he says, that a living man is a potential corpse, nor wine potentially vinegar, but just that the matter of the one, proximate or prime, keeps also a potentiality for the other, so it is not the man but the mere matter of the man which turns into the corpse (1045a 1). To show that this device must be futile needs only the remark that it would work equally well in reverse, to prove that there are potencies only for deterioration, so that while men turn into corpses, not babies but only their matter turns into men. And Aristotle renounces it by his maxim that potencies are always for opposites (1051a 7), and by the corresponding many examples where potentialities do run in both directions, not only from form ψ to form φ as well as from φ to ψ, but from more form to less form as well as from less form to more (217, 225a, 1067b 14 ff., 1071a 11). There is, in fine, a "disposition and cause and principle" which equips one for perishing (1019b 5).

Matter, potency, change, and imperfection—not all the Aristotelian canon is summed up in the assimilation of these to one another, but much of it is, directly or by implication. A correspondingly incomplete but suggestive summary of our whole examination of the theory of form and matter is that, having tried to pick out and compare the real features of the world which Aristotle seems mainly to have been denoting, ostensibly as aspects or manifestations of a single principle, we have discovered that these not merely are distinct but are independent in a fairly strict sense of "independent," namely, that almost any of the formally possible compounds of the constituent notions and their negates is ontologically admissible, and many a combination which Aristotle ruled out a priori is empirically better confirmed than many he dogmatically declared for. We saw earlier, for example, that there is no obvious or impressive reason to think unmattered forms, if such there could be on other grounds, should be more perfect than the mattered. Just now we have seen, for example, that there is no reason a priori why imperfect entities, mattered or not, should be especially potent or changeable, nor

why a perfect entity, mattered or not, should not swirl like a kaleidoscope.

It is futile, of course, for friends of the Philosopher to rally to him with the slogan that he "had a different conception of form" in which all the moot traits *are* combined, unless they can show that there is such a conception. Aristotle's philosophy is his own, to be sure, but authority of authorship goes just so far. It cannot make ten disparate notions into one organic principle any more than it can make the inconsistent consistent or the false true. There remains the very recondite possibility that there is some nuclear germ in the doctrine which we have overlooked but from which all the canvassed notions sprout and spread coherently after all; but that such a significant kernel has eluded millennia of sympathetic examination, to say nothing of our brief inspection, is too incredible to take seriously. The nearest to a plausible rehabilitation would be to establish empirically that some considerable correlations hold among terms akin to the Aristotelian ones. This is already, however, to falsify the philosophy's claim and appearance of monolithic inevitability, which have awed even fractious spirits *in partibus infidelium*, and to substitute a congeries of hypotheses, more or less *ad hoc*, unlikely to be confirmed and unlikely to keep the old clientele if it were.

The god Hermes was supposed to preside over sheep, commerce, male fertility, communication, boundaries, doorways, luck, eloquence, thievery, and divination by pebbles. "It is difficult," commented E. E. Sikes in the *Encyclopedia Britannica*, "to derive the many-sided character of Hermes from a single, elemental conception." The difficulty we have found with the "many-sided character" of hylomorphism is, I think, as similar to this in principle as it is in appearance. The hylomorphic method of analogy, which Aristotle, in deliberate revulsion toward common-sense prejudice, preferred to the analytic and scientific method nascent in his time, is fundamentally the method of mythopoeia, with the same strange power and the same perils. This is why, for example, there is so striking a difference between exegesis of modern and of Aristotelian authors. To expound the Cartesian tenet on any topic is like deducing from an axiom set; a high-school student might do it. To interpret Aristotle or Aquinas is

more like ransacking an agglomerate of fairy-tale book, Shakespeare, and mail-order catalogue—an almost interminable compiling, conjecturing, and classifying, worthy of lifetimes of ingenious scholarship.

The very inexhaustibility of the Aristotelian jottings, while it makes them poor pieces of knowledge, makes them good rank specimens of reality. No one has equalled him in divining the questions to be asked nor in fecundity of responses, themselves as much questions as answers. The result which I describe grudgingly was put more generously by Whitehead, that Aristotle is forever the indispensable author because he set down man's whole treasure of the prima facie, regardless of consequence, which every philosopher must take account of one way or another. Modern philosophers who have not done so seem thin and puerile in comparison. The worst thing that could have happened to his genius was being erected into a monument, for in this posture he becomes perennially more dilapidated the more he is patched and propped. Aquinas, says Professor Wolfson, was already listing "no less than fifty-one varieties of matter and no less than one hundred and twenty-one varieties of form."[4] Mined like the mountain that he is, however, he is a bottomless supply of the stuff of philosophies, ruder and more challenging than experience itself.

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[4] H. A. Wolfson, *The Philosophy of Spinoza* (Cambridge, Mass., 1948), I, 234.

DISCUSSION

PROFESSOR RYLE AND PSYCHOLOGY

IN THE last chapter of *The Concept of Mind*[1] Professor Ryle states his view of the province of psychology. He warns us not to equate "the official programmes of psychology with the researches that psychologists actually carry on" (p. 319). I shall attempt to avoid this error. One should, however, also avoid the error of basing one's view of the nature and scope of these researches upon a philosophic program of one's own. As we shall see, on one interpretation of what he has written, this is an error of which Professor Ryle himself may be guilty.

In what follows I shall primarily be concerned with the last chapter of *The Concept of Mind*, though reference will also be made to the first chapter of that work, and to Chapter VII of *Dilemmas*.[2] For the purposes of this paper I am willing to grant that all of the specific analyses which Ryle gives in *The Concept of Mind* (as distinct from the general discussions of its first and last chapters) are important contributions to the particular problems to which he addresses himself. What I aim to show is that even when the importance of these analyses is granted, there remains at least one wider problem which has been associated with the traditional mind-body problem. This is the problem of how we are to interpret the relation between our ordinary commonsense explanations of human behavior and the explanations of human behavior which are frequently given by psychologists.

I

Ryle notes that if we define the province of psychology through examining what psychologists actually do, we shall find that the term "psychology" does not refer to "a unitary inquiry or tree of inquiries," but to "a partly fortuitous federation of inquiries and techniques" (p. 323). With this, I should suppose, all would agree. It seems fair, however, to say that Ryle himself would acknowledge that there is at

[1] Gilbert Ryle, *The Concept of Mind* (Hutchinson's University Library; London, 1949). All page references in the text refer to this book.

[2] Gilbert Ryle, *Dilemmas* (Cambridge, 1954).

least a tenuous bond which connects the components of this federation, and in most cases in which he discusses his own view of the province of psychology we find that psychologists deal with "behavior." When, in these passages, Ryle gives us examples of the kinds of behavior with which psychologists deal, it becomes obvious that this behavior is human behavior. Those persons who are concerned with animal psychology or with comparative psychology seem not to be included in his delimitation of the province of psychology. This is not surprising since Ryle apparently dates the beginning of psychology from the time at which the word "psychology" was coined. If we look at this dating, psychology is roughly two hundred years old (cf. p. 319), and if we then consult the *NED* we find that Ryle is quite correct in saying that the program of psychology as a separate study seemed *at that time* to involve the assumption of "the ghost in the machine." If, however, we follow the method of defining psychology in terms of what psychologists do, it is not implausible to argue that in many respects psychology may have changed in both its assumptions and its methods in the course of two hundred years. It then seems not unreasonable to take into account animal psychology, rather than to confine the field of psychology to human actions and reactions.

Closely connected with this point, but more important for what follows, is the fact that those more recent psychologists who have studied the mechanisms of the sense organs, or of the nervous system, are not in general counted as psychologists by Ryle. Though he does at one point (p. 321) mention such inquiries, his characterization of the field of psychology does not usually take their studies into account. To be sure, most persons would probably acknowledge that it made little difference whether investigators who engaged in the study of the sense organs and of the nervous system were to be denominated as "psychologists" or as "physiologists," or by any other name. Granted that "psychology" is not the name of a unitary inquiry but refers to a federation of inquiries, I too would admit that what we call these persons makes no difference, *unless* their exclusion from psychology represents a particular program for what psychology ought to be. This proviso is crucial, for we shall shortly see that Ryle is in fact giving a prescriptive definition of the province of psychology, and his definition (which excludes both animal psychology and general physiological psychology) is one which is not unconnected with his view that all talk of mind-body problems rests on a category mistake.

For the moment, however, let us grant that the province of psychology is to be confined to human behavior, and let us so interpret what

we mean by "human behavior" that it includes only such actions and reactions as we directly observe in ourselves and in others. This is in fact Ryle's prescriptive delimitation of the data of psychology (p. 320). Granted such a definition, Ryle notes that we shall have difficulty in delimiting the field of psychology from a host of other approaches to the same materials. As he points out, historians, philologists, dramatists and novelists, economists, strategists, teachers, detectives, and chess-players all concern themselves with these same materials (p. 320). In fact, of course, we all do so at almost all times in our waking hours. The usual moves to protect psychology as a separate study of these materials are, as Ryle points out, to hold (1) that it differs from these other approaches in being "a science" and thus deals in generalizations (p. 322 f.), and (2) that it differs from them in its attempt to give causal explanations of this behavior (p. 324 f.). Ryle counters these two moves with the following objections. (1) Other sciences, such as economics, sociology, anthropology, criminology, and philology also explain human behavior in terms of generalizations (p. 323). (2) He claims that the "very solemn expressions" "cause" and "causal explanation" should not mislead us: the economist, the novelist (and his reader), and even the schoolboy doing his arithmetic know full well the causes of human behavior (p. 324 f.).

It is here that we at last come to the correct *differentia* of psychology which Ryle has been seeking (cf. p. 322). There are some "actions, fidgets and utterances, the author of which cannot say what made him produce them" (p. 325); these it is the task of the psychologist to explain. Ryle holds, however, that those "actions and reactions which their authors can explain are not in need of an ulterior and disparate kind of explanation" (p. 325). As he says in summary:

> There are plenty of kinds of behaviour of which we can give no such explanations [i.e. explanations in terms of "ordinary causes"]. I do not know why I was tongue-tied in the presence of a certain acquaintance; why I dreamed a certain dream last night; why I suddenly saw in my mind's eye an uninteresting street corner of a town that I hardly know; why I chatter more rapidly after the air-raid siren is heard; or how I come to address a friend by the wrong Christian name. We recognize that questions of these kinds are genuine psychological questions. . . . Even in the field of sense perception and memory the same thing seems to hold. We cannot, from our own knowledge, tell why a straight line cutting through certain cross-hatchings looks bent, or why conversations in foreign languages seem to be spoken much more rapidly than conversations in our own, and we recognize these for psychological questions. Yet we feel that the wrong sort of promise is being made when we are offered corresponding psychological explanations of our correct estimations of shape, size, illumination and speed. Let the psychologist tell

us why we are deceived; but we can tell ourselves and him why we are not deceived [p. 326].

I have quoted this passage at length for fear that my readers may have forgotten, and might therefore not believe, that Ryle holds that psychology deals only with "our mental incompetences," but not with our "mental competences" (p. 326).

The first thing to be said concerning this thesis is that it is factually untrue if we define the province of psychology in terms of what psychologists do. To take Ryle's own examples from the field of sense perception, it may be pointed out that when we perceive what is generally taken to be the true shape of a penny (that is, as circular, not elliptical), or when we perceive what are taken to be the true relations between the size of a man seen at a distance of ten feet and the same man seen at a distance of five feet, we are involved in explanations of constancies of shape and of size. Psychologists have devoted a great deal of attention and ingenious experiment to the effort of explaining these constancy phenomena. And the same may be said of color constancy, of brightness constancy, of the apprehension of motion, and the like. Similarly, in experiments on memory, psychologists have studied the conditions under which correct recall takes place, and may perhaps even be said only to have studied errors in recall in order to throw light on the conditions which facilitate correct recall. Further, in the study of associations it is to be noted that while many inquiries have been interested in establishing the existence of certain distorting motivational influences on recall (and Ryle seems to be particularly impressed by these), many other inquiries have attempted to study the facilitating influence of other motivational factors. And precisely the same sort of considerations apply (though even more obviously) to those fields of learning theory which are not confined to the problem of memory. In short, it is simply untrue that the attention of psychologists is confined to those problems to which Ryle apparently believes it *should be* confined. His characterization of the *differentia* of psychology is therefore clearly tendentious.

There is a second and even more important reason for rejecting Ryle's view. Within the field of psychology itself it is clearly impossible to draw a line between the explanations which are to be given of those cases in which we are deceived and of those cases in which we are not. In explaining optical illusions, for example, psychologists talk of the characteristics of the stimulus, of the relation between the stimulus and other parts of the visual field, of the nature of the intervening medium, of what happens on the retina, in the optic nerve, in the

visual area of the cortex, and perhaps of other factors (for example, past experience or its traces). To refuse to talk about these factors would be to limit one's self to *listing* hitherto discovered optical illusions. (It is doubtful whether they could even be meaningfully classified without using several of these criteria.) And Ryle himself does not suggest that those cases in which we are deceived should merely be listed: he wants them "explained." However, when we turn from optical illusions to what Ryle would doubtless grant were cases of veridical perception (that is, those acts of seeing which permit the postman to find his way, the farmer to take his pigs to market, the heroine to gather up her letters and take them upstairs), we find that we can analyze these cases in exactly the same terms as we can the cases of optical illusions. Whatever leads us to relate an optical illusion to the characteristics of the stimulus and to the nature of other parts of the visual field, whatever leads us to relate it to the nature of the intervening medium and to processes which go on within the perceiving organism, and whatever relation we attempt to establish between an illusion and past experience, will also lead us to relate an act of veridical perception to precisely the same factors. To be sure, we may not be interested in doing so. Perhaps it might be argued that were it not for the epistemologically puzzling cases of illusions men would not have investigated sense perception at all.[3] However, once this epistemologically generated interest led some people ("psychologists") to investigate those causes of our mental incompetences which are not known by "ordinary good sense" (p. 326), these same people have in fact used precisely the same concepts and methods to explain what happens in other cases of perception. If their explanations are accepted in the one set of cases, and if exactly the same types of factors are also to be found in the other set of cases, some reason must be adduced to show that it is illegitimate—and not merely uninteresting—to apply them there. That it is uninteresting, or perhaps distasteful, to Ryle to apply them in cases of veridical perception does not prove that they cannot be so applied. And Ryle has given no reasons to show that they cannot be.

II

It may be charged that the preceding criticism is based on a misunderstanding of Ryle's views. A defense of what he has meant to say, whether he has said it or not, might take the following form.

[3] I do not in fact believe that such is the case, but I should be willing to grant it for the sake of the argument.

(A) Ryle is willing to grant autonomy to all empirical investigations. Empirical research in psychology may deal either with animals or humans; it may also be couched either in physiological terms or in terms of those observable features of behavior with which we are familiar in daily life. Further, Ryle would be willing to grant the right of the empirical investigator to establish correlations between physiological events and instances of everyday behavior.

(B) All that Ryle objects to is a confusion in "logical geography"; confusion which leads us to explain observable human behavior in terms of inappropriate categories. The chief confusion of this kind is the attempt to explain ordinary human behavior in terms of acts of the mind, where the term "the mind" is interpreted as referring to a special sort of substance. A second confusion of this kind (to which Ryle devotes more careful attention in Chapter VII of *Dilemmas*) is the mistake of attempting to interpret our ordinary common-sense notion of, say, seeing or hearing in terms of the categories and types of explanation which are appropriate in optics and acoustics.

Such an explication of what Ryle means to say concerning psychology has some plausibility, since in *Dilemmas* (p. 110) he lumps psychology with optics, acoustics, and physiology, and since in one passage in *The Concept of Mind* (p. 321) he does recognize that psychologists have studied animals in mazes, have studied sense perception as opthalmologists study sense perception, and have studied the effects of alcohol and brain injuries on human behavior. It would then follow that what Ryle really means to say when he says that psychology deals only with our mental incompetences is that the problem of explaining perception (or the like) in physiological terms only arises when we make an error. In other words, according to this interpretation, the startling passage which I have quoted and criticized merely affirms that *in daily life* we do not in fact ask why we see two lines as parallel if they are parallel; we only ask such a question when we already know that they are not. The passage, then, would say nothing about what sorts of questions arise *within* the science of psychology; it would only be referring to what sorts of questions generate an interest in pursuing psychological investigations.

It seems to me that it would be hard to substantiate from what he has said concerning the science of psychology that this is all that Ryle wishes to affirm. In both the first and the last chapters of *The Concept of Mind* he is betrayed into a far more extreme position because of a peculiar *non sequitur* in his argument.

Ryle argues that the data which psychologists set out to investigate are data which are accessible to us in ordinary experience. As he correctly insists, if Descartes had not already been able to "distinguish good from bad arithmetic, politic from impolitic conduct, and fertile from infertile imaginations," he would not have "speculated how the applicability of these criteria were compatible with the principle of mechanical causation" (p. 21). And he is quite right in saying that "a researcher's day cannot be satisfactorily occupied in observing nonentities and describing the mythical" (p. 321); we must start from experience, and if our concern is with human behavior then we must start from observing human behavior. From this it does not follow, however, that the concepts which are utilized in explaining these original data are also themselves given in ordinary experience, in the sense in which Ryle uses the term "ordinary experience." Yet he repeatedly speaks as if the one position entailed the other. For example, he criticizes a program for psychology which would "find and examine data inaccessible to teachers, detectives, biographers or friends; data, too, which could not be represented on the stage or in the pages of novels" (p. 320). In opposition to such a program he holds that "those human actions and reactions, those spoken and unspoken utterances, those tones of voice, facial expressions and gestures, which have always been the data of all the other students of men, have, after all, been the right and the only manifestations to study" (p. 320). And he then employs this statement in order to draw the conclusion that psychologists cannot investigate "happenings different in kind from, and lying 'behind,' those bits of human conduct which alone were accessible to the other studies of man" (p. 321). This is his *non sequitur.*

Though psychologists do not in fact possess privileged access to esoteric data but start where we all start in our daily observation of human action, they do explain these actions through recourse to physical and physiological findings which are not capable of being represented on the stage, and which are not usually to be found in the pages of novels. These findings do not constitute their original starting-point, their "data," but are materials through which they seek to explain these data. The question then arises whether the explanations which they offer do in fact yield a knowledge of the necessary and sufficient conditions for the data which they seek to explain. Descartes and other adherents of the belief in mental substance would hold that they do not. It is their contention that we must also postulate a mind and its acts if we wish to give an adequate explanation of human behavior. This belief, whether correct or not, has, I submit, been one of

the sources of the traditional mind-body problem. It is only because he is not concerned with problems of explanation, outside of those explanations which we give in everyday experience, that Ryle has overlooked or minimized this fact.[4]

III

But let us suppose, with Ryle, that when the snarls of language have been untangled, we shall see that in order to explain behavior we do not have to postulate a mind substance nor any purely mental acts. Does any specifically philosophic problem still remain?

In *Dilemmas*, where he deals most concretely with issues in "logical geography," Ryle shows us differences between our uses of technical, scientific concepts and those concepts which are nontechnical, or less technical; that is, concepts which are used to describe ordinary experience. It is without question important to note these differences. To fail to observe them would be as inappropriate as it would be to muddle our geological maps with arbitrary introductions of state and county boundaries, or our political maps with scattered references to rainfall.

It is also important, however, to show how objects or events which are referred to by our technical concepts are related to the objects or events referred to by our nontechnical concepts. Put in terms of geography—and not merely "logical geography"—it is important to know whether two maps are of the same territory or are of different territories, and this question arises whether the maps are both political maps, or both geological maps, or whether they are of different categories.

Now one of the tasks of philosophers has always been to relate various maps to one another. Even in the case of Descartes we may say that one of his basic purposes was to find some way of relating the mechanical theory of the world, which had implications for the interpretation of the nature of the human body, to the ordinary acts of seeing, choosing, feeling, and reasoning which he as a human person performed.[5] Whatever mistakes were involved in his inference to mental substance as a means of reconciling the two maps, Descartes at least attempted to relate what he found on one to what he found

[4] Cf. Albert Hofstadter, "Professor Ryle's Category Mistake," *Journal of Philosophy*, XLVIII (1951), 261-264.

[5] Cf. the earlier quotation from Ryle (p. 21) concerning Descartes' initial ability to distinguish good from bad arithmetic.

on the other. In order to show that even after he has dissolved the errors which he has found in Descartes the problem remains a problem for Ryle, I shall briefly discuss the two kinds of "explanations" which he permits us to make when we seek to explain human behavior.

Ryle holds that we can and do explain most human actions in a common-sense way, and in terms familiar through common, non-technical usage. He admits that in some cases (errors) we cannot explain them in the familiar way; it is here that we must call on the psychologist. He does not apparently note, however, that in order to explain these cases the psychologist must often resort to concepts which are not familiar through common, nontechnical usage. For example, at many points in psychological explanations we find that physiological terms are employed; similarly, Freudian psychology uses theoretical terms of its own. Now these technical concepts are part of a theoretical structure: they are introduced in order to explain the puzzling behavior, not merely to name it. And if we examine the theoretical generalizations which are contained in the use of this technical language and which are to serve as explanations of the puzzling behavior, we shall find that they are often quite different from the ordinary generalizations by means of which, on the common-sense level, we are apt to explain human behavior. For example, our ordinary explanations of behavior frequently make use of purposive language which is missing in physiological explanations of the same behavior. And if Ryle is not offering a restrictive delimitation of the province of psychology but is willing to allow physiological explanations of behavior even when the latter is "competent," then the same act can, in many cases, be explained in two different ways.[6] It would still be important to insist, as Ryle insists, that we should not confuse these two different explanations. But it would also be important, as I have insisted, for someone to state what are the relations between the territory mapped by one set of explanations and the territory mapped by the other. If all philosophic problems are linguistic problems, then this is not a philosophic problem. It is, however, a problem with which philosophers have often sought to deal.

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[6] If psychological explanations were relevant only to the explanation of behavior which we cannot understand in ordinary terms, and if competent behavior were not subject to psychological investigation, this problem would not arise. But in that case my strictures against Ryle's view of psychology would hold without the modification introduced by the interpretation offered in section II of this paper.

ONTOLOGY AND THE HIERARCHY OF LANGUAGES

ALTHOUGH W. V. Quine's criterion of ontological commitment has circulated widely, it has not often been scrutinized as carefully as in Richard L. Cartwright's paper on the subject.[1] What Cartwright says is interesting and plausible. But there are reasons which lead me to believe his argument is not entirely sound; I want to put forward those reasons here while at the same time drawing benefit from the work he has done.

1. Quine has tended to state his criterion in a form of which the following quotation is typical:

> . . . an entity is assumed by a theory if and only if it must be counted among the values of the variables in order that the statements affirmed in the theory be true.[2]

Cartwright centers his attention on the occurrence of the word "must." To him it "strongly suggests that advantage is being taken of notions dealt with in the theory of meaning." He goes on to explain:

> To say that such-and-such objects *must be* values of variables is very much like saying that it is *necessary* that they be values of variables. And the term "necessary" is presumably as good a candidate for the theory of meaning as the terms "analytic" and "entail."[3]

Therefore, he contends, Quine's formulation is intensional, despite Quine's own animadversions to the theory of meaning and his express declaration: "As applied to discourse in an explicitly quantificational form of language, the notion of ontological commitment belongs to the theory of reference."[4]

One feels some perplexity at Cartwright's attempt to read Quine's criterion in terms of a notion of necessity belonging to the theory of meaning. The study of analyticity has been undertaken, especially by Carnap, partly for the purpose of providing a definition of truth

[1] "Ontology and the Theory of Meaning," *Philosophy of Science*, XXI (1954), 316-325.

[2] W. V. Quine, "Logic and the Reification of Universals," *From a Logical Point of View* (Cambridge, Mass., 1953), p. 103.

[3] Cartwright, *op. cit.*, p. 319.

[4] W. V. Quine, "Notes on the Theory of Reference," *op. cit.*, pp. 130-131.

for languages containing logical modalities. In this framework the terms "necessary" and "analytic" are indeed closely related; but the former belongs to the object language, the latter to the metalanguage.[5] Therefore the respective concepts cannot be enlisted together into the service of the theory of meaning, or at any rate not in analogous capacities.

Cartwright's emphasis on Quine's choice of a modal form of expression misfits the over-all phrasing of the criterion. The words "must be" (or "has to be") are inevitably followed by the clause "in order that the statements affirmed in the theory be true." Now the whole construction "must be . . . in order that" seems to me to have no recognizable affinity either to logical necessity or to logical truth. At the same time, the familiar connotations of the idiom should not be mistaken for symptoms of a pragmatic or socio-teleological intention. Accordingly my task is to point out the data of syntax and semantics which I think Quine has abridged by using a modal auxiliary.[6]

2. As Cartwright remarks, the theories to which Quine's criterion is applicable are formalized languages. A formalized language consists of a logistic system, determined by syntactical rules, and an interpretation provided by semantical rules.[7] From Quine's formulation of the criterion we can learn further that the interpretation is one which constitutes a model of the system. Roughly speaking, a model is an assignment of designata to constants and of values to variables such that—under the usual interpretation of application of predicate to argument, sentential connection, and quantification—the theorems of the system are assigned the truth-value T. More than one assignment of designata and values may succeed in validating the theorems, so that a system can have more than one model. But truth is an absolute concept; given the language there is at most one set of true sentences in

[5] Rudolf Carnap, "Modalities and Quantification," *Journal of Symbolic Logic*, XI (1946), 34; *Meaning and Necessity* (Chicago, 1947), p. 176.

[6] The fact that Quine follows the auxiliary with a subordinate clause in the subjunctive mood might be construed as evidence of intensionality. Therefore it is not irrelevant to cite an English grammar on this point : "The subjunctive is occasionally used after *that*, *lest*, *before*, *until*, etc., in subordinate clauses referring to the future and commonly expressing purpose or expectation. This construction is confined to poetry and the solemn or formal style. In ordinary language the indicative or a verb-phrase with *may* is used." G. L. Kittredge and F. E. Farley, *An Advanced English Grammar* (Boston, 1913), p. 122.

[7] Cf. Alonzo Church, *Introduction to Mathematical Logic*, Vol. I (Princeton, 1956), pp. 47-58.

it. This is effected by identifying truth with validity in a particular model which is distinguished as the principal model.[8]

Therefore I understand Quine to mean that the entities to which a theory is committed are those values of the variables which are specified in the semantical rules defining the principal model. This seems the most natural way to represent that the assignment of values has connection with the prerequisite "that the statements affirmed in the theory be true."

On the other hand, Cartwright feels that "we cannot simply take the rule of range for the variables as providing a statement of the ontology of an elementary theory" (that is, a theory of first order, to which his discussion is confined). For, he argues,

> . . . this would require us to ascribe the same ontology to all elementary theories in which the variables are given an unrestricted range. Actually, any elementary theory whose variables are given a restricted range can easily be re-cast, through appropriate additions of primitive predicates, so as to involve only unrestricted use of variables. Assuming all elementary theories so re-cast, no two of them would differ ontologically.[9]

But in the first place, the notion of an unrestricted range versus a restricted one is vague. No familiar semantical system makes such an assignment to the variables of the object language, at least not in the sense that they range "over every object whatever."[10] For the meta-language must be equipped with some systematic account of the entities which belong to the domain of values. Second, if a theory is a logistic system and an interpretation, then the changes in each which Cartwright suggests for "re-casting" the theory would actually produce a different theory.

On another score Cartwright feels uneasy about using the range of the variables as a straightforward index of ontological presuppositions.

[8] Cf. Alfred Tarski, "Der Wahrheitsbegriff in den formalisierten Sprachen," *Studia Philosophica*, I (1936), 261-405, translated by J. H. Woodger in *Logic, Semantics, Metamathematics* (Oxford, 1956), see esp. p. 199 and pp. 239-240. John G. Kemeny, "A New Approach to Semantics," Part I, *Journal of Symbolic Logic*, XXI (1956), 1-27, esp. 4-17. I want to append the stipulations for models which are generally accepted. (1) By the rules of evaluation every axiom is assigned T, and a conclusion of an immediate inference is assigned T if the premises are. It follows that every theorem has the value T. (2) Not every sentence of the system is assigned T. If the usual operations of sentential connection are present, the semantical laws of contradiction and excluded middle hold.

[9] Cartwright, *op. cit.*, pp. 319-320.

[10] *Ibid.*, p. 319.

He asserts that the domain of values may comprise certain entities whose exclusion would not jeopardize the truth of the theorems, so that "the variables *need* not have been given so wide a range."[11] Pursuing this a little further, we might view the modal phrase in Quine's criterion as conveying tacit directions for selecting the principal model; for example, to choose a model whose domain has minimum cardinality or minimum variety of kinds of entities. I find this prospect attractive. The criterion would then apply, however, not to formalized languages but to an uninterpreted calculus in relation to its possible interpretations. Such relationships probably fall to the theory of meaning rather than the theory of reference. Therefore, to preserve both Quine's intention and Cartwright's understanding of the field of its application, the criterion must be considered to have force only *after* a particular model has been designated as fixed.

If I am correct about the role of the principal model in our scheme, then one type of objection which Cartwright directs against extensional forms of Quine's criterion is unfounded. He is concerned that, by one such formulation or another, a theory which counts a false sentence among its theorems will either be free of any ontological commitment or else will be committed to "objects of every kind whatever." But no theorem is false, that is, invalid in the principal model. And I should think there would be no point in pressing the commitments of a theory if its interpretation were not being offered as sound.

On the other hand, we would want to be able to apply the criterion to a theory without, for our own part, assuming its consistency or the existence of its model. In this connection Cartwright raises an extremely pertinent question: how can we talk about the ontological commitments of a theory without taking upon ourselves the same commitments? If the statement of the criterion uses the predicate "true" in application to a given theory T, then the statement itself belongs to the semantical metatheory of T. To develop the semantics of a system, the metalanguage contains variables answering to all those present in the object language. Hence the values of the object-linguistic variables are included among the values of the variables in the metalanguage. Accordingly the criterion, as a sentence in the semantics of T, would not escape the commitments whose incurrence by the object language it is supposed to register impartially.

These reflections lead us to seek a formulation of the criterion which, for a given theory T, would belong to the meta-metatheory of T.

[11] *Ibid.*, p. 320.

Cartwright offers one such formulation, regarding it as minimally intensional and at the same time capable of meeting his objections to extensional forms. It will, I think, repay us to look at his proposal in detail.

3. Cartwright turns to an alternate version of Quine's criterion:

> . . . to say that a given existential quantification presupposes objects of a given kind is to say simply that the open sentence which follows the quantifier is true of some objects of that kind and none not of that kind.[12]

From this, after rejecting two fairly close paraphrases, he arrives at the following:

> C. An elementary theory, T, presupposes objects of kind K if and only if there is in T an open sentence ϕ having α as its sole free variable such that (i) $\ulcorner(\exists\alpha)\phi\urcorner$ is a theorem of T; (ii) it follows from the semantical rules of T that for every x, ϕ is true of x only if x is a member of K.[13]

I assume that Cartwright is using the phrase "follows from semantical rules" in the sense established by Carnap. Then "follows from" does not refer to derivability but to logical consequence, and "semantical rules" refers simply to the definition of the predicate "true in T."[14] According to Carnap, if a definition is incorporated in a system, any sentence which is a logical consequence of it is analytic in that system.[15] Therefore clause (ii) could be replaced by the following: It is analytic in MT that for every x, ϕ is true in T of x only if x is a member of K.

Clearly, in order to state C, the meta-metatheory must furnish not just the syntax of the metatheory but as much of the semantics as is needed to define analyticity or logical consequence for it. Cartwright says that C, though using these intensional concepts with regard to MT, presupposes just the extensional part of the semantics of T. While this appears to be the case, MMT will resort indirectly to a determination of the intensional properties of T. For MT, in providing a truth definition for T, contains a translation of T. Hence the definition of analyticity for MT in MMT will in particular apply to those sentences which translate the sentences of T. Most importantly, we will know

[12] Quine, *op. cit.*, p. 131.

[13] Cartwright, *op. cit.*, p. 324; the label "C," replacing "VI" in the text, is mine.

[14] Rudolf Carnap, *Introduction to Semantics* (Cambridge, Mass., 1946), p. 83; "Modalities and Quantification," *op. cit.*, pp. 35-37.

[15] Generally this would not hold with derivability in place of logical consequence. If a system possesses nonanalytic axioms, a derivation from a definition in the system could make use of these axioms, thereby in some cases establishing a nonanalytic result. Of course, a synthetic sentence may be a logical consequence of other synthetic sentences, providing the corresponding conditional is analytic. But in the phrase "logical consequence of a definition" ti is understood that only logical axioms are allowed as auxiliary premises.

which among the theorems of *MT* that translate theorems of *T* are counted as part of the logic of *MT* and which are considered factual.

It can be shown, I believe, that *MMT* shares the ontological commitments of *T*. Let us consider first an arbitrary language *L* and a metalanguage *ML* adequate to define "analytic in *L*." *ML* will specify the following items relative to *L*: (1) a domain of values of variables—the same domain as would be chosen for the principal model; (2) a classification of constants into logical and descriptive; and (3) meaning postulates, if any. A given sentence is analytic in *L* if and only if, under the rules for assigning valuations to all well-formed expressions of *L*, the sentence receives the truth-value T no matter what class is assigned, consistently with the meaning postulates, to any descriptive predicate constant occurring in the sentence.[16] If *L* has some descriptive predicate constant for which there is no matching variable, the domain of values must be enriched by a subdomain of the same type as the predicate.

Since the designata of any descriptive predicates in *L* remain unspecified, translations of these predicates are not needed in *ML*. But to formulate the evaluation procedure and to give for each sentence a necessary and sufficient condition of its being analytic, *ML* will employ logical expressions corresponding to the logical constants of *L* and variables corresponding to those in *L*. Thus, though *ML* may be descriptively weaker than *L*, its variety of quantifiable variables will meet and even outstrip *L*'s. By Quine's criterion *ML* presupposes all the entities that are presupposed by *L*.

Returning to *MT* and *MMT*, we see immediately that our result holds in their case. Moreover, it holds for *MMT* in relation to *T*, by virtue of the translation of *T* in *MT*. In fact, Quine would give a somewhat sharper edge to my argument here, because he thinks of the metalanguage as being a certain more inclusive language *containing* the object language.[17]

4. The disadvantages of C can be avoided if in (ii) the notion of *being a theorem* is permitted to supplant that of *following from semantical rules*. This purely syntactical version would make the assessment of the ontological commitments of a theory dependent on the capacities of proof in the semantic metatheory. But Cartwright has already observed that by C the determination of the commitments of a theory is relative to the resources of the metatheory; namely, what predicates are

[16] Cf. Rudolf Carnap, *The Logical Syntax of Language* (London, 1937), pp. 98-120; "Meaning Postulates," *Philosophical Studies*, III (1952), 65-73.
[17] Quine, *op. cit.*, pp. 135-136.

available to replace the schematic letter "K," and what connections of logical deducibility exist among these predicates and between them and the predicate "true."

The proposed revision would seem superior to C in those cases where it is provable in MT, but not analytic, that for every x, if ϕ is true in T of x, then x belongs to K. Such a situation would be almost inevitable, and undeniably significant for the ontology of T, whenever T and hence MT are not purely logical.

An example will make clearer what I have in mind. Suppose the predicate "K" and the predicate, say "P," in the open sentence ϕ[18] are both descriptive, "K" translates an object-linguistic predicate "K'," and no meaning postulate connects "K'" with "P." Then a metalinguistic statement to the effect that anything belonging to P belongs to K is surely descriptive and is the same as saying that anything of which ϕ is true belongs to K. The statement might be provable but fails to be analytic. To hold with Cartwright that a metatheorem of this sort would not be relevant for judging the commitments of a theory appears paradoxical in the case of theories whose predicates are all descriptive.

Nor does Cartwright's approach seem advantageous in the reverse situation, when either there are no descriptive predicates or only logical connections among such are asserted. For if the metatheory is a logical system whose theorems form a proper subset of the analytic sentences, then the syntactical criterion will give the same results as C through an appropriate choice of ϕ.

At first glance it may seem surprising that a criterion of ontological commitment should turn out to be a point of syntax, but surely less surprising when we see it as complexly as a function of the object-linguistic proof procedure in relation to that of the semantic theory in the metalanguage. The relationship itself can be expressed only in the metametatheory; I have suggested that at this level we can gauge ontological commitments through citation of certain theorems in the preceding disciplines.

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[18] Here of course ϕ is some particular sentential function whose existential closure, by (i) of C, is a theorem in T. I have taken ϕ to be atomic, or a partially quantified atomic sentence if "P" is polyadic. But my point could also be illustrated with suitably chosen molecular sentential functions or partial quantifications of such.

SELFHOOD AND GODHOOD

A MAJOR philosophical work, in which the author is prepared to discuss traditional problems like the ontological status of the self, the freedom of the will, the objectivity of moral obligation, evil and the existence of God, and to do so by methods other than the analysis of ordinary language, stands isolated like the peak of Teneriffe in the sea of analytic philosophy in which British schools are now awash and which is not just lapping, but rather more than overlapping, the shores of the American Continent. Professor C. A. Campbell's Gifford Lectures[1] constitute such a work, and one which will in no slight measure satisfy the public thirst for constructive and illuminating philosophizing. Campbell's book is full of clear and incisive argument in support of doctrines many of which have been forgotten but are of no less importance on that account. These doctrines, even if not all of them are sound, must nevertheless be reckoned with, and if they are faulty, they must be refuted by rational criticism before they can be abandoned. The younger generation of philosophers for the most part, if they are aware of these doctrines at all, imagine them to have been disposed of by the work of the linguistic analysts. Linguistic analysis is not altogether an improper method of criticism, for we may agree with Campbell that it is an essential part of philosophical thinking and one rarely neglected by any considerable philosopher. But it is no more than a propaedeutic and as it is currently practised its arguments often fail to satisfy sound critical standards. Campbell is quite uncompromising and unapologetic in his refusal to confine himself to any such method, though he is quite prepared to examine and criticize the use of words when necessary (as in his treatment of the meaning and use of "symbol" and "symbolic"); but he is also quite undeceived about the errors into which one can be led by restricting attention to the analysis of sentences, and his critique of recent ethical writing is in consequence penetrating and devastating. The effectiveness of his dialectic fully vindicates his persistence in what he himself refers to with Socratic irony as his "old fashioned manner." Yet there is reason to consider some of his views outdated, not simply because they fail to conform to new vogues in philosophical talk, but because

[1] *On Selfhood and Godhood.* By C. A. Campbell. London, George Allen and Unwin, 1957. Pp. xxxvi, 436.

recent progress in knowledge renders them no longer plausible. To these I shall return presently. First let me outline the positive doctrine of the book.

Because no theological questions or their answers make sense unless the substantive reality of the soul is assumed, Campbell devotes his first course of lectures to the detailed examination of selfhood. He adopts and restates the judgment theory of cognition developed at the turn of the century by the British Idealists. His revival and defense of this theory (which has never effectively been refuted) is of paramount importance and merits close attention by any who are unfamiliar with the doctrine or imagine it to be unsound. I am not sure that I could endorse quite every point that Professor Campbell makes in his advocacy of it, but the space at my disposal must be reserved for discussion of more important disagreements than might arise here. Campbell points out the two vital truths that the doctrine asserts: the centrality of the act of judgment in human cognition and of self-consciousness in human experience. Here are the first evidences of the substantival nature of the self. What acts (in judging) must be an agent and cannot be simply the activity, and what is aware of itself as a continuing subject and as having and uniting its experiences must be something unitary and persistent over and above the experiences themselves. So Campbell rejects the serial view of the self and can find no satisfactory alternative, in any special sort of relation between or quality of psychical states, to the view that the self is a substance to whose existence our continuous judging activity gives constant testimony, even though we do not and cannot know *how* its unity and identity are realized.

The relation of this substantival self to its body Campbell, after suitable investigation, considers to be *de facto* and not essential. The self, he holds, is therefore spiritual in character and could conceivably exist without the body. He favors a theory of interaction and sees no difficulty in the conception of a mutual causal relation between body and mind.

Knowledge of the self is to be had primarily through introspection, which Campbell defends as a method of knowing, and he finds the capacity to retain and remember further evidence of substantiality. For neither Russellian mnemic causation nor what he calls "the Event-trace theory" (that every experience contains in it traces of all past experiences) is plausible, and to explain memory (and its derivatives) one can resort only to a view of the mind as a structure of dispositions capable of being modified by experience. Thus there must be some

substance or subject to possess the structure. Here an important point about mind is established. The readiness to admit and to talk of mental dispositions is common enough among psychologists and philosophers today, but to say that a propensity is dispositional is usually thought to dispose of the need to postulate any entity which has the disposition. Yet surely if there is *nothing* which is disposed to act, there is no disposition. Some writers (notably Professor Gilbert Ryle) have attempted to reduce dispositions to sets of hypothetical propositions, forgetting that the basis of all hypotheticals is an existing state of affairs which provides the ground of the implicative nexus between protasis and apodosis.

The other modes of self-activity revealed by introspection are desiring and willing. Campbell contends for freedom of the will in a manner which (though no necessitarian) I find difficult to accept and to which I shall return. He then examines the nature and deliverances of the moral consciousness and finds reason to hold that the "ought" of moral judgment is ultimate and unanalyzable, a categorical imperative incumbent upon us. This judgment he takes as conclusive evidence that the moral order has objective reality even though, once again, we cannot understand *how* the nature of things is or includes a moral order.

In his second course Campbell discusses first the general conception of religion, which he defines as "a state of mind comprising belief in a supernatural being or beings endued with transcendent power and worth, together with the complex emotional attitude of worship intrinsically appropriate thereto." This definition would be more acceptable to me if the word "supernatural" were omitted, because of its ambiguity and the questionable suggestion of dualism that it carries. "Transcendent" seems to me to do all that is needed to achieve the result which Campbell seeks—but more of this anon. Though he rightly insists that the elements of belief and emotion are inseparable, Campbell puts belief first, and clearly the essential feature of all religion is its creed. The logical nisus of this belief, under the moulding influence of rational criticism, is towards theism—belief in "a Single, Infinite and Eternal Spirit, Perfect in Power, Wisdom and Goodness, Who is the source of all that is, Who is the Moral Governor of the World and Who is yet a living presence in the hearts of men."[2] Campbell sets out to consider whether this belief is true and he finds two main classes of obstacles to its credibility: (i) facts of experience

[2] *Op. cit.*, p. 254.

and (ii) internal inconsistencies. The first are the experiences of evil in sin and suffering; the second are the contradictions into which theism falls when it understands the terms literally by which it defines and describes its God. Campbell finds it easily possible to overcome the difficulty presented by sin, because man's freedom, he properly holds, is essential to his responsibility and therefore to the possibility of moral virtue, but it equally involves the possibility of vice. Without the possibility of sin, therefore, there would be nothing of moral value in the world. The difficulty presented by suffering is less easy to dispose of but, with some misgiving, Campbell is prepared to admit as just plausible the joint arguments that excessive undeserved suffering is inevitable in the best of all possible worlds and that for all we can tell it may be compensated in the joys of a future life. But he prefers to hold simply that the ways of God are inscrutable to man.

For rational theism, which takes literally the terms descriptive of God, Campbell finds self-contradictory. An omniscient God would be one Who judges always truly. But judgment implies defect. It is the act by which our imperfect knowledge grows and expands and which predicates a "what" of an ever elusive "that." But God's knowledge must comprehend both "that" and "what" and His intellect would thus transcend the possibility of judgment. His knowledge could not be discursive or conceptual and may not properly or literally be called knowledge at all. The same is true of will, which implies imperfection for it is the act of bringing into being something we now lack, of seeking fulfilment in something as yet unattained. But God's perfection is beyond all such search and endeavor. Similar arguments would prove all the attributes we ascribe to Him impossible and self-contradictory when raised to an absolute pitch.

Rational theism is therefore rejected, but the rejection of religion as such does not follow, for it is possible to understand the predicates applied to God in a purely symbolic sense in which they attribute to Him properties analogous to human virtues but not identical with them. Campbell squarely faces the difficulties of this position but he does not find them insuperable. He holds that a suprarational theism is corroborated by the requirements of sound metaphysics, which demands a self-consistent reality but finds that this demand drives it ultimately beyond the bounds of rational intelligibility. This corroboration extends to belief in God's "unity," "infinity," "eternity," "wisdom," and "goodness," all symbolically understood. But testimony to the indwelling of the Holy Spirit can be given only in religious experience, the genuineness of which is subject to the test of reason

though its deliverances are not, and even in pronouncing on its value as evidence reason can reach only probable conclusions.

Complete and adequate discussion of all this would require a book of a size comparable to Professor Campbell's. I shall confine myself to a few points where there seem to me to be weaknesses, due, I think, to the neglect of a doctrine (and its implications) integral to the philosophy from which Campbell draws his main inspiration, that of F. H. Bradley. This is the doctrine of degrees of truth and reality. It can take forms other than that given it by Bradley, but Campbell's failure to take account of it produces aberrations in an otherwise admirable and impressive philosophical enterprise.

Consider first the case for the separability of the self from the body. This, one would have thought, nobody would seriously advocate today. One of the readiest criticisms of Ryle's rather labored and repetitive attack on the Cartesian myth is that the ghost (in or out of the machine) had been laid so long ago that further exorcisms seemed hardly necessary. Now here is Professor Campbell reviving the doctrine on the evidence of introspection and on the strength of a criticism of the psychology of G. F. Stout. Campbell argues that even if organic sensations are always present in consciousness, localization of them in the body is not intrinsic to them but is a later interpretation. This, I think, is true, and from it, coupled with the consideration that consciousness without organic sensations is not inconceivable, Campbell concludes that the self is not essentially related to the body. But surely such an argument is far from convincing. First, *is* consciousness conceivable without organic sensations? Are not all sensations in some sense "organic," even though none of them is originally consciously located in the body? And is it not at least probable that there is a sensory aspect (or moment) in all awareness? For all its merits (so well defended by Campbell), the method of introspection is almost bound to mislead us on just this matter. If, like Descartes, we confine attention to what is revealed in immediate consciousness, we are apt to say that it might all possibly appear even if we had no body, because all that ever is or could be revealed in consciousness is a mode of consciousness, whereas the body is a physical thing. Now we have learned that the essence of the cognitive element in consciousness is judgment, and judgment is a twofold process of analysis and synthesis injecting relations into an amorphous content and giving it structure. Consciousness is thus a high degree of integrative activity, unifying and diversifying what, so far as it *dis*integrates, becomes *un*conscious. There are, however, lower degrees of this sort of activity. Biology, physiology, and

psychology, each at a specific level, reveals self-regulating and unifying processes which, in progressively increasing degrees, simulate the organizing and articulating operation of thought in judgment, and all the scientific evidence at our disposal supports the belief that there is a continuity of process from the purely organic, through the merely reflex and automatic (which may, nevertheless, be in varying degrees conscious and consciously controllable), to the fully conscious and deliberate activity of thinking. I suspect that even introspection would reveal subconscious processes emerging into consciousness (as when we introspect the lower levels of attention). Would it not be better, therefore, to maintain that body and mind are not separate entities related externally (whether causally or otherwise) but are different degrees or levels of a continuous process? This even admits of Ryle's conclusion that they are different categories; certainly if we adopt Hegel's use of the word "category" it would be a very fitting definition. It seems to me that if Campbell is to carry his point here he must deal not only with Stout (whose arguments are far from cogent) but, quite apart from Ryle (who reaches the right conclusion from the wrong premises), with Spinoza and Hegel, with Whitehead and Alexander, with Bosanquet, and even with Bradley.

Certainly when we turn to the will and find its freedom defended on the ground that we can will to act against our formed character, Bradley must stir in his grave. Formed character, for Campbell, is the product of heredity and environment, which are not within our control, and this determines our desires and their relative strengths. But we can nevertheless act, he maintains, contrary to our strongest desire when duty requires it, and our decision so to act is therefore free, as it must be if we are to be morally responsible. Such decisions are "inexplicable" in the sense that they cannot be inferred from determining conditions, and to ask for an explanation of them is thus absurd. But what sort of freedom is this? Can we do better than give Bradley's reply? "Turn it as we will, the *libertas arbitrii* is no more at last than *contingentia arbitrii*. Freedom means *chance*; you are free because there is no reason which will account for your particular acts, because no one in the world, not even yourself, can possibly say what you will, or will not, do next. You are 'accountable,' in short, because you are a wholly 'unaccountable' creature."[3] The criticism seems to me unanswerable. If free action is unaccountable, we cannot be held responsible for it. I might well plead, "I couldn't help it; I (my will)

[3] *Ethical Studies* (Oxford, 1927), p. 11.

did it in spite of myself (my character)." Campbell refuses to identify self with character, where Bradley insists on the identification. If it then be asked how I can form and *re*form my character, surely Bradley's answer is correct: "that the character of a man is not what is made, but what makes itself, out of and from the disposition and environment."[4] If we think of will as a higher level of integrative action than simply inherited propensities, and of conscious learning (practical and theoretical) as the process of their organization in the formation of character, the process itself is seen to be one with judgment, and action is free in the same sense as thought is free, in so far as it is self-conscious and self-determining. The peculiarity of Campbell's theory is that he *confines* freedom to those admittedly rare actions in which we are faced with a choice between duty and our strongest desire, and he confesses that in 95 per cent of our acts this choice does not arise. It should follow that when duty and desire coincide we deserve no credit for acting rightly, as in such cases we are neither free nor responsible. This implies that action from desire is not strictly action at all and that when duty and inclination are at one our behavior is amoral. Surely this cannot be intended, but if not, what is?

Campbell's strictures upon rational theism and his defense of supra-rational theism seem to me to suffer from the same neglect of the doctrine of degrees. As a protest against the sort of theology which offers us a finite and anthropomorphic God acting upon the natural world from without as a despotic ruler, Campbell's critique of rational theism is to be welcomed. But it is not clear that any such protest is his object. Rather he gives the impression that he is attacking any and every attempt to rationalize the faith and to make the nature of God intelligible. This he feels is never possible, because God utterly transcends man and the world and can be described only in symbolic terms. Yet if God is the acme and summit of a perfection of which man's virtues are, at however great a distance, a lesser degree, then it will follow quite naturally that such terms as "unity," "power," "wisdom," and "love" will apply differently, though analogously, to man and to God. God may well transcend man and the world infinitely and yet be immanent in and continuous with them. Differences in degree, we may admit, when widely separated, amount also to differences in kind and may even be regarded as in some sense opposite. But to be so different and opposed is not the same as to be "wholly other." Of course, our minds cannot reach the stage at which God's

[4] *Ibid.*, p. 22.

character could be adequately comprehended. If they could we should become omniscient. But this is not sufficient reason for alleging that the difference cannot be one of degree at all and that our thought and God's differ *toto coelo*. Campbell at times seems on the verge of suggesting some form of the doctrine of degrees and, if he had, the antithesis between rational and suprarational theism might have been resolved. Then the demands of the intellect might well be made the basis for belief in the objective truth of religion and the existence of a transcendent God in a more convincing fashion than by representing the wholly unintelligible as the goal of the intellect.

A similar approach might also help to solve the problem of evil and suffering. I think that Campbell's discussions of sin are essentially sound, but that on the problem of suffering there is more to be said.[5] If suffering is a defect incidental to a specific degree of development, its reality and its inevitability would nevertheless be compatible with the realization of perfection. Indeed, the graded scale of forms might be the essential mode of self-specification of the ultimately real, and development the indispensable condition of achievement. Suffering would then turn out to be the steep and thorny path by traversing which alone the highest values can be reached. If it were eliminated, so would be everything of greatest worth. Is there then need to go further and to advocate any dubious doctrine of an after life with its compensating joys?

My inability to agree with Professor Campbell at all points does not detract from my respect and admiration for the courage and honesty of his thinking and the massive importance of its results. If the younger generation of students can be brought to read this book with the care and attention it deserves, and sincerely to ponder the questions it so meticulously analyzes, much will have been done to further the cause of philosophy and truth.

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[5] Cf. C. E. Raven, *Experience and Interpretation* (Cambridge, 1953), ch. vi, for an admirable discussion of the whole problem.

BOOK REVIEWS

INTERPRETATION AND PRECISENESS. A Contribution to the Theory of Communication. By ARNE NAESS. Oslo, Jacob Dybwad, 1953. Pp. xiv, 450.

In this substantial treatise Professor Naess gives an account of some of the principal concepts and procedures which he has been using in his empirical studies of language. He makes no claim to having solved or essentially illuminated any of the traditional problems of philosophy, but it is obvious that his work has been motivated, at least in part, by the more or less offhand and irresponsible ways in which philosophers sometimes talk about the "correct" or "ordinary" use of linguistic expressions. In explaining the genesis of his studies, the author reports that interviews with persons not educated in philosophy have convinced him "that acceptance of intuitions reported by the philosophically sophisticated about the verbal and conceptual habits of others leads to confusion and error." He does not contend that whenever a philosopher wishes to make a statement about ordinary use he should first investigate the matter by means other than his own intuition. "I merely suggest that empirical procedures should be applied to empirical questions. When philosophers offer conflicting answers to questions that have empirical components, empirical research is needed."

Naess mentions another factor which motivates him to make these studies: he is impressed by the way in which empirical research in other disciplines has resulted in changes in their classificatory systems and conceptual framework, and he hopes that similar research will lead to similar modifications of the concepts in terms of which we discuss the questions of semantics. And indeed, the least that can be said for the present work is that in it the author does introduce a number of new and interesting concepts which are relatively closely connected with empirical testing procedures and at the same time preserve a useful similarity to the more familiar but somewhat vague concepts out of which they arise. It must be emphasized, however, that Naess's claims are everywhere modest. He does not pretend to be doing more than opening up certain problems of empirical semantics and providing some of the groundwork for future studies in this field.

The book presents a vast amount of information and analysis, organized in a manner which is sometimes difficult to understand. One can perhaps say that, roughly speaking, the author addresses himself

to two distinct but closely related tasks. One of these is the task of analyzing and clarifying various semantical concepts in such a way as to make them more amenable to testing procedures, and the other consists in designing the tests themselves. Of course, the design of a particular verification procedure can be regarded as itself implicitly defining a new concept which is more or less similar to the concept which guided the design, or one can simply think of the procedure as a more or less satisfactory method of confirming (if not completely verifying) hypotheses involving the guiding concept itself. There is no practical difference, in the reviewer's opinion, between these ways of looking at the matter. It is only important not to shuttle back and forth between the two viewpoints. If one is not careful about this, one may be inclined to answer the serious question, "Does your procedure test synonymity?" by producing a rigmarole amounting to "It tests what it tests."

In the analytic portion of his book the author discusses a wide variety of semantical concepts. In each case, to appreciate the Naessian approach the reader probably will find it helpful to begin by asking himself some such question as "How would one go about determining empirically that such and such expressions or texts fall under the given concept?" Thus, in the case of synonymity, it is useful to ask "How shall we determine whether two expressions are in fact synonymous?" Of course, one soon realizes that these unqualified questions are much too vague to be answerable. We are led to scale down our pretensions and relativize the concepts in various ways, in order to bring them closer to empirical procedures. Thus, as concerns synonymity, we may perhaps replace our original question by something like the following: "How shall we determine whether a given occurrence of an expression a_1 means the same for a person P_1 in a situation S_1 as a given occurrence of an expression a_2 means for a person P_2 in a situation S_2?" Or we may make our questions and concepts more precise and realistic in other ways. The possibilities are of course very numerous, but in every case the situation seems to dictate some such replacements in the direction of greater precision and ease of verification.

It is not possible in a review to survey all of the definitions and analyses offered by Naess. But it will be instructive to see how he treats some of the more common semantical terms. In the case of "synonymity" he begins by considering such locutions as: ". . . has the same meaning as . . .," ". . . and . . . mean the same," ". . . expresses the same sense as . . .," ". . . and . . . are used synonymously," and so

forth. Observation of the use of these locutions reveals that in practice they are usually modified by certain kinds of expressions which Naess calls "subject matter references" and "marginal references," and which point to the existence of a whole family of distinct but closely related synonymity concepts. Thus, consider the italicized expressions in the following sentences.

(1) *As interpreted by Tarski*, "equality" and "logical identity" mean the same *in arithmetic*.

(2) *Among pragmatists* "true" does not mean the same as "useful" *when they use the terms themselves*.

(3) *Very often* "America" *when used in newspapers* is a synonym for "U.S.A."

(4) The designation "government of the people, by the people, for the people" *at the end of Lincoln's Gettysburg Address* means the same as the designation "democracy" *occurring in the sentence "This expresses my idea of democracy," p. 389, vol. VII of Lincoln's "Writings."*

(5) *In the works of Newton* the terms "mass" and "product of density and volume" are synonymous.

(6) *Properly speaking*, the word "automatic" does not mean the same as the word "involuntary," *even as applied to human actions*.

(7) *As interpreted by the historian Crew*, the designation "density" *as used by Newton* is synonymous with "specific gravity" *as used by Ernst Mach*.

According to Naess's analysis, some of these italicized qualifying phrases express restrictions on the synonymity relation; others limit the subject matter to certain occurrences or kinds of occurrences of the terms in question. In (7), for example, we find both types. The occurrences of "density" are restricted to those in the writings of Newton; the occurrences of "specific gravity" are restricted to those in the writings of Ernst Mach (translation is involved here, of course); the synonymity relation is restricted to that expressed by "has the same meaning for the historian Crew."

Guided by the existence of this variety of synonymity sentences, and always with an eye on possibilities for verification, Naess introduces a number of standard forms into which hypotheses about synonymity can be cast. These include

(8) The occurrence a_1 of the expression a at the place G_1 is synonymous with the occurrence b_1 of the expression b at the place G_2.

(9) The occurrence a_1 of the expression a means the same for person P_1 as the occurrence b_1 of the expression b means for the person P_2.

(10) The occurrence a_1 of the expression a in the situation S_1 is synonymous with the occurrence b_1 of the expression b in the situation S_2.

By quantification and by substitution of constants for variables one obtains from these forms a wide variety of synonymity hypotheses, but it is clear that even such relatively specific hypotheses are not without further ado testable. Many questions need first to be answered. In connection with (8) it will make a difference what sorts of expression are substituted for "G_1" and "G_2." If "in the first dialogue written by Plato" is used, for example, the resulting sentences will not be practically testable. (9) raises problems, too. We have to decide whether we wish to claim Sender synonymity or Receiver synonymity (Naess's terms). For example, we might take (9) in the sense of

(9′) P_1 intends to express by the occurrence a_1 of a what P_2 intends to express by the occurrence b_1 of b. (Sender synonymity)

or as

(9″) P_1 takes the occurrence a_1 of a in the same sense in which P_2 takes the occurrence b_1 of b. (Receiver synonymity)

or in still other ways involving combinations of Sender and Receiver synonymity on the part of one or both persons. The form (10) requires remarks similar to those applied to (8); thus, if the situations are specified to be "natural" (that is, not involving the presence of a questionnaire or other "artificial" stimulus), the problem of verification can be greatly complicated. Still another form introduced by Naess combines (9) and (10):

(11) The occurrence a_1 of the expression a means the same for the person P_1 in the situation S_1 as the occurrence b_1 of the expression b means for the person P_2 in the situation S_2.

The author does not deal explicitly with the possibilities for defining these various locutions in terms of one another, but there are incidental remarks which seem to indicate that he would define (9) by quantifying (11) for all situations S_1 and S_2. He is well aware, of course, that

when a relation is defined by universal quantification in this way, the possibility of its ever being found to hold is practically ruled out.

We pass now to a brief consideration of some of the other terms discussed by Naess. He introduces the word "heteronymous" in roughly the sense of "has a different meaning from." Expressions which are neither synonymous nor heteronymous he describes as "incomparable in terms of synonymity." (Thus, expressions are incomparable when at least one of them does not have a meaning.) He observes further that the relation of heteronymity requires a whole set of qualifications parallel to those already applied to synonymity, and he shows how "ambiguous" may in various ways be defined in terms of "heteronymous." Needless to say, the complexities found in the sense of the term "synonymous" indicate corresponding complexities in the senses of all other terms which are parallel to it or defined by means of it.

Naess gives passing consideration to the normative elements which are often involved in claims of synonymity, ambiguity, or other semantical relationships. He says "the vernacular references to 'correct language,' 'strict meanings,' 'real meanings,' etc., can roughly be viewed either as vague references to possible semantic systems, or to classes of occurrences representing usage by persons with special qualifications." In connection with this he notices that the presence of normative elements does not preclude the presence of empirical elements in the same hypothesis, recognizing in addition that people's beliefs concerning what is "correct usage" must be taken into account in order to make satisfactory predictions about actual usage. Later in the book an entire chapter is devoted to what are called "definitoid statements", that is, to normative definitions and related statements (where a normative definition is described as "a sentence which announces that a certain expression within a certain field shall be interpreted or used synonymously with a certain other expression").

The important terms "interpretation" and "preciseness," which give the book its name, are defined by the author in a rather complicated way. But the central ideas seem to be the following. If, relative to a given person, there are two heteronymous sentences each of which is in some situations synonymous with a given third sentence, then the two sentences are said to express (or, for short, to be) interpretations of the third. More generally, if any expression is synonymous with a given expression for at least some persons in some situations, then it is termed by Naess a "synonymic alternative" of the given expression. Thus every interpretation is a synonymic alternative, but not all synonymic alternatives are interpretations.

The relation of "more precise than" is defined in terms of "synonymic alternative": one expression is more precise than (or is a precization of) another if and only if the class of synonymic alternatives of the first is non-empty and properly included in the class of synonymic alternatives of the second. For an example of this, consider the sentences

(12) The train leaves at 8 o'clock *p. m.*

(13) The train leaves at 8 o'clock.

We may suppose that every synonymic alternative of (12), for example, "The train is scheduled to leave at 8 o'clock *p. m.*," is also a synonymic alternative of (13); but obviously there is at least one synonymic alternative of (13), namely, "The train leaves at 8 o'clock *a. m.*," which is not a synonymic alternative of (12). Therefore, (12) is more precise than (13). Naess draws attention to the fact that he defines preciseness in such a way that for one expression to be more precise than another they must have a common synonymic alternative. Hence many pairs of expressions are incomparable as regards preciseness; one cannot say, for example, that the sentences of mathematics are more precise than those of psychology. The author justifies this restricted use of "precise" by saying that he is mainly interested in the possibility of reducing misunderstanding by replacing given expressions by other expressions which are more precise.

Naess draws a number of consequences from his definitions. To the reviewer it is not always entirely clear how these follow, but in any case they throw light on the author's intentions. One such consequence is the statement that it is not possible for a less precise sentence to be an interpretation of a more precise sentence. Certainly this is an example of the sort of consequence which *should* follow from adequately framed definitions of the constituent terms; a full formalization of the definitions would in this connection be eminently desirable.

Among the more interesting of the new (or relatively new) concepts introduced by the author is that of "definiteness of intention." It is explained in the following way. Suppose that a given sentence T_0 occurs in a text and that we have the possibility of asking the author of this sentence questions about what he intended when he wrote it. We construct a list of heteronymous precizations of T_0—say, T_1, T_2, T_3—making sure that the list is logically or practically exhaustive. For each of these precizations we construct a similar list of heteronymous precizations, and so on. With respect to the resulting branched

schema we question the author of T_0 along the following lines: "When you wrote T_0 did you intend T_1 or T_2 or T_3?" Perhaps he chooses T_2. Then we ask whether he intended T_0 in the sense of T_{21} or T_{22} (heteronymous precizations of T_2). If he chooses T_{22}, for example, we go on to have him consider T_{221}, T_{222}, and so forth. Sooner or later, says Naess, the point is reached at which the subject must admit, if he is honest, that (1) if he made a definite interpretation of the sentence T_0 at all, he must have intended one of a given set of alternatives, and (2) that he intended none of these. We estimate the degree of definiteness of intention on the basis of how far the subject gets before he reaches this point. The reviewer sees no reason for extracting admission (1) from the unfortunate subject; but despite this and other obvious objections, the idea is a useful one.

In general, the reviewer believes that very often the same linguistic phenomena which have led certain recent philosophers to surprising conclusions about ordinary usage can better be explained or described by means of the notions of synonymic alternative, precization, and definiteness of intention. We may grant, for example, that it is possible to say "He yawned" without intending either "He yawned voluntarily" or "He yawned involuntarily"; but this seems to justify a conclusion about the definiteness of intention of the speaker rather than one to the effect that there are yawns which are neither voluntary nor involuntary.

Turning now to the portion of the book which deals with the design of empirical procedures, we find that the procedures discussed fall into two main groups: (1) those involving the use of questionnaires, and (2) those involving what Naess calls "occurrence analysis." In all cases he confines himself to the various synonymity relations, though presumably the other semantical relations could be handled in analogous ways. Synonymity relations are classified as intrapersonal and interpersonal, on the obvious basis, the former being much more easily testable. Under both headings he considers the following:

(1) Norm-synonymity (roughly, a given occurrence of *a* means the same as *b* if and only if there is a normative definition which stipulates that *a* shall mean the same as *b* within a field of application, and the given occurrence of *a* falls within that field). The author proposes to test for this sort of synonymity by making an occurrence analysis, which in this case appears to consist in finding the normative definition and determining by common sense that the given occurrence falls within its scope.

(2) Ds-synonymity (roughly, one expression means the same as another if and only if they are said by competent people to mean the same in use). This is to be tested by various kinds of questionnaires.

(3) Truth-condition-synonymity (roughly, "two sentences shall be said to mean the same if and only if the conditions under which one is true are identical with the conditions under which the second is true"). In this case the author employs questionnaires which describe various circumstances and require the subject to decide the truth-values of the tested sentences under those circumstances.

(4) Argumentational synonymity (roughly, two given sentences are synonymous with reference to a group of sentences if, and only if, each member of the group is a pro-argument, a contra-argument, or irrelevant in relation to one of the given sentences if and only if it has the same status in relation to the other given sentence). This is tested by questionnaires in which the subject is asked to rate various sentences as pro, con, or irrelevant to the sentences being tested.

Supplementing his general discussion, the author gives a number of examples of questionnaires, and at the end of the book he presents some interesting results concerning the symmetry and transitivity of empirical synonymity relations. He also gives a full discussion of the laborious operation known as "occurrence analysis."

The reader of Naess's treatise is left with a number of strong impressions, among them: how exceedingly complex the subject of semantics becomes when one strives really to come to grips with it; how easy it is to criticize the empirical procedures utilized by the author, and how difficult to propose any that are better; how futile it is to speculate about the ordinary use of words without asking oneself just how one would ascertain the truth of what one is inclined to say about it.

BENSON MATES

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JOHN LOCKE: A BIOGRAPHY. By MAURICE CRANSTON. New York, The Macmillan Company, 1957. Pp. xvi, 496. $8.00.

Biography should be more than a chronicling of the events in a person's life, more than the temporal ordering of his ideas, more even than a synchronization of ideas with action. Biography should give us an understanding of the person's thoughts and emotions, his motivations and rationalizations; it should, as Johnson said, "lay open to posterity the private and familiar character of that man." Whether a particular biography succeeds in these aims depends as much upon the man as it does upon his biographer. Even after all the facts have been sorted out and narrated, the personality may still elude the writer. Locke presents an especially difficult figure. Many interesting and significant new facts about his thoughts and actions emerge from Cranston's careful reconstruction of this enigmatic philosopher, sometime physician, and man of politics. Most importantly, we can now appreciate more fully the man of political action. Locke was not the retiring, introspective person he has sometimes been assumed to have been. Though abnormally secretive and frightened of the consequences of political action, he nevertheless played an important and influential role in the changing political scene of late seventeenth-century England.

Locke was in and out of politics, both under Charles II and under William and Mary. Always his presence and thought seem to have been working behind the scenes, through personal friends at court and in parliament (cf. esp. pp. 324, 343, 306, 434). His treatises on money were debated by a parliamentary committee, and Locke was asked to speak before this committee (pp. 394-395). His views on toleration were constantly pressed by Shaftesbury, and *Two Treatises* played a heretofore unsuspected role in the revolution of 1688. Locke held several governmental posts and was offered many others. He was secretary to the diplomatic mission of Sir Walter Vane to Brandenburg (in 1665), private secretary to Lord Shaftesbury, Fellow of the Royal Society, secretary of Presentations (in 1672), secretary of the Council of Trade (in 1673), and, under William and Mary, Commissioner of Appeals and (his most powerful post) Commissioner of Trade. In 1666 Charles II offered Locke the post of secretary to the Ambassador to Sweden, and, when they came to the throne, William and Mary offered him the post of Ambassador to Frederick III, Elector of Brandenburg. When he was in retirement and in very ill health (in 1698) he risked his life to attend a summons by

William in which he very probably was offered the important post of Embassy Secretary in Paris (pp. 433-436).

Throughout all this political activity Locke pursued his philosophical reflections. Moreover, he had a number of what Cranston terms "sentimental relations" with women (Chapter 4). In fact, Locke seems to have had quite a way with the ladies, both young and old, married and unmarried. While at Oxford, he carried on flirtations with several young ladies at Black Hall. At the same time, he pursued other feminine interests in Somerset. He once wrote a friend that he was contemplating marriage (p. 198); the recipient of these affections was an admirer whom Cranston has been unable to identify. He found other women to interest him at Northumberland House (p. 134). Even in Holland, Locke did not want for female companions (p. 258). He had his most serious affair with Damaris Cudworth, later Lady Masham. He always found it pleasurable to be with beautiful women; he seems to have managed to travel more than once in their company. In 1672 he traveled to France with the beautiful, wealthy, young Lady Northumberland (p. 145). After William and Mary had been appointed to the crown, Locke returned to England from Holland in the entourage of Mary, specifically in the company of Lady Mordaunt (p. 307). This affair was decidedly flirtatious on both sides. Locke wrote to Clarke as if marriage were a possibility. After Locke had taken up residence at Oates, the home of Lady Masham and her husband, Lady Mordaunt and Lady Masham were inclined to speak jealously whenever Locke was with the other. Locke's situation at Oates was rather strange, though very probably not, as John Edwards once charged, that of master of a seraglio.

Cranston minimizes these amorous activities of Locke. In fact, it is never clear just how involved his relationships were. Locke was very secretive: he wrote in a private cypher, sent notes written in milk to young ladies (p. 35), and in general kept his most intimate thoughts to himself. Cranston carefully points out that Locke matured rather slowly. He went up to Oxford at the advanced age of twenty, was not outstanding in his studies, showed no unusual merits or talents, and published nothing before the age of forty-nine. Cranston credits Shaftesbury (whom Charles II termed "the greatest whoremaster in England"—p. 108) with providing the environment and the encouragement which produced the mature Locke. It was his entrance into courtly and political society, in the London residence of Shaftesbury, which undoubtedly gave drive and direction to Locke's ambitions. Locke was conservative by nature.

London life turned him into a "bourgeois, prudent, and self-protective" man (p. 123), qualities strikingly illustrated when Locke made what seems to have been unabashed denials of the truth about his activities in Holland, whence he had fled from royal persecution of Shaftesbury's followers. While vigorously denying any acquaintance with other expatriate English revolutionaries, he was frequently seeing and talking with some of them. Upon one occasion, Locke recorded the dictum: "it is a man's proper business to seek happiness and avoid misery" (p. 123). This dual motive led him to turn an indifferent ear to the entreaties of love proffered by one of his more ardent Oxford acquaintances. That he never married can be partly explained by his concern to get on in the world. He was also very parsimonious. As a landlord, inheritor of a few houses left by his father's meager estate, Locke was careful, scrupulous, and intent upon receiving his rents. He more than once pressed friends for money due him, even to the extent of pressing a son for payment in the same letter in which he extended his condolences upon the death of the father (p. 377). He was a careful investor. His estate was evaluated at twenty thousand pounds upon his death, a considerable sum for those days, amassed by one who began life with very little.

Locke's political action did not go unsupported by theory, although his early political views were decidedly conservative. In an unpublished reply to Bagshawe's *The Great Question*, Locke said that "the supreme magistrate of every nation, what way so ever created, must necessarily have an absolute and arbitrary power over all the indifferent actions of his people" (p. 60). The preface of the same document proclaimed that "there is no one can have a greater respect and veneration for authority than I." Locke also seems to have read his Hobbes (even, perhaps, met him; cf. pp. 151-153) and adopted ("cribbed," Cranston charges) some of Hobbes's thoughts (p. 62). The Locke of 1660-1661 was "a man of the Right, an extreme authoritarian" (p. 67). It was only a few years later, in 1666, that Locke met Anthony Ashley Cooper who was to become Lord Shaftesbury. He took up residence in Shaftesbury's home in 1667. From that time on his philosophical ideas began to grow, his political ideas and allegiances to change. So much did his political ideas change that he seems to have written his *Two Treatises* as early as 1681. This early dating is due to the work of Mr. Peter Laslett, whom Cranston follows on this point. Such a dating is momentous: "To date Locke's book c. 1681 is to link it with Shaftesbury's revolutionary movement for a Protestant succession" (p. 208). Locke had been in the intimate company of Shaftesbury since 1667,

performing the function of private secretary, and moving in the political circles of London. The early dating of *Two Treatises* discloses that Locke was not only justifying revolution: he was calling for one. Cranston is careful to point out, however, that Locke's political theory was based "on his religious convictions" (pp. 209-210). The law of nature which Locke defends in the early essays on that subject (recently published by W. von Leyden), to which he refers in the *Essay*, and on which *Two Treatises* is founded, is the moral law proclaimed by God.

Cranston is inclined to overemphasize the empiricism of Locke's thinking, despite the importance of his observation regarding the theological foundation of Locke's natural law. There is only a passing reference, in his discussion of the *Essay*, to Book I. Such a lacuna is doubly strange, for not only did this portion of the *Essay* arouse some of the more vociferous reactions by Locke's contemporaries, it also has a most interesting relation to the doctrine of natural law. If the empiricism in Locke's thought did not destroy the natural law doctrine, Cranston seems to feel the linguistic analysis of Book III could (p. 66). But just how this would come about he does not explain. Locke applies his linguistic analysis to the concepts of essence and substance without destroying his belief in real essences or in a substance behind appearances. It would be difficult to see how this analysis would undermine natural law.

Cranston's analyses of Locke's philosophical ideas are never very thorough or complete, but he tries to set them in the context of Locke's life. One does not look to a biography for illumination of the intricacies of a man's philosophical treatises. Cranston's biography is fully justified on other grounds; but despite his careful reconstructions, Locke's personality remains incomplete and elusive. Not all of this sketchiness is due to Cranston: Locke has not allowed an intimate portrait of himself to shine through his letters and published works. There will undoubtedly be an opportunity for a more complete biography at some later date. More Locke letters and manuscripts are sure to turn up in time. But whoever does the future definitive biography of Locke will have to employ more imaginative and intuitive powers than Cranston reveals. Locke is a man who must be interpreted. A mere presentation of the facts, no matter how scrupulously done, will always leave us with only the outer shell of the man.

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MENTAL ACTS: THEIR CONTENT AND THEIR OBJECTS. By PETER GEACH. New York, The Humanities Press, 1957. Pp. x, 136. $2.50.

Mr. Geach has written a splendid book, which deserves to be read by every serious student of the philosophy of mind. He follows Descartes' precedent in indicating what he means by "mental act" by giving examples of the kind of act that he would call mental: thinking, feeling, seeing, hearing, and so on. About three-fourths of the book is devoted to acts of judgment, the remainder to acts of sensing; this is not because Mr. Geach thinks that there are no other mental acts but because these are fundamental. The capacity to judge we may conceivably share with disembodied intelligences; the capacity to sense belongs to us as living physical organisms (p. 116).

That there are acts of judgment is beyond doubt. "Anybody performs an act of judgement at least as often as he makes up his mind how to answer a question" (p. 9). Although Mr. Geach acknowledges that a man who has made up his mind immediately knows what it is, he follows Wittgenstein, Ryle, and (he would say) Aquinas in denying that such self-knowledge is by "introspection" (p. 21), a doctrine which, while open to telling objections (pp. 107-111), is tempting. Once you concede with Mr. Geach that there are mental acts and processes, it is easy to be deceived, as Mr. Geach is not, by what Wittgenstein has called "the decisive movement in the conjuring trick," the suggestion that we apply to those nonphysical processes our definite concept of what it is to know a process better, which is derived from our knowledge of familiar physical processes (*Philosophical Investigations*, I, § 308).

Acts of judgment need not be put into words. Whether or not he said anything to others or to himself, a gardener would reasonably be held to have judged that it was about to rain if he made suitable preparations. Yet the act of judgment expressed by "... expects rain soon" cannot be analyzed behavioristically. The specimens of behavior which can be classified as rain-expecting are indefinitely various: they have no "behavioral" characteristics in common, nor do they form a family with family-likenesses. There is one ground, and only one, on which these behavior-specimens can be assigned to one class, namely, that in each case the agent performed a mental act which he could have expressed by saying and meaning, "It will rain soon," and that he inferred from that premise, in the light of his needs and wants, that what he did was the thing to do. He may not have formulated either

judgment or inference, even to himself; but unless it were presupposed that he made a judgment and an inference which could have been formulated, it would be impossible to classify his behavior as expressing any judgment whatever. The only sort of behavior that by itself characterizes a judgment is putting it into words; "lying is necessarily the exception, not the rule" (p. 8).

Although acts of judgment are episodic, that is, have a position in a time-series (p. 9), they differ from speech episodes in two respects. First, they are nonsuccessive unities. When a sentence is spoken, its words are uttered in a temporal sequence; but inasmuch as it is understood as expressing a judgment, they are understood together; it would be nonsense to say that the judgment had temporal parts. Second, it follows that, although it is episodic, "we cannot assign to judgment more than a loose connexion with physical time" (p. 105). A judgment does not occur before the beginning or after the end of the words in which it is uttered; but "if we try to assign it to a definite moment or moments, or to a definite stretch of time, we find ourselves in a bog of nonsense" (p. 106).

Judgments are characteristically expressed by uttering sentences; and just as sentences are analyzable into words and phrases, so judgments presuppose concepts. Geach defines a concept as subjective, "a mental capacity belonging to a particular person" (p. 13), and so quite distinct from the supposed objective entity which Frege called a "*Begriff*." "The central and typical applications of the term 'having a concept' are those in which a man is master of a bit of linguistic usage" (p. 13), although the capacity to use a word or a phrase intelligibly is a sufficient, not a necessary, condition for having a concept (*cf.* p. 44). "If a man struck with aphasia can still play . . . chess, I certainly wish to say he still has the concepts involved in the game" (p. 13). Those who contend that concepts are not "presupposed to" judgments, but artificially abstracted from them, forget that "a language is mastered not by learning whole sentences out of a guidebook but by learning to make up sentences in it and to understand sentences not previously heard" (p. 12).

It is a common and natural view that concepts are acquired by "singling out in attention some one feature given in direct experience —*abstracting* it—and ignoring the other features simultaneously given —*abstracting from* them" (p. 18), so that "fundamentally a concept is a recognitional capacity" (p. 44). This doctrine may be called *abstractionism*. It implies that a concept is simply a capacity to recognize something given, which needs only to be singled out. Geach's refutation of

abstractionism resembles Frege's well-known argument that numbers are not given in experience, because "a number is essentially a number *of* a kind of things. . . . What number I find may vary, without my observations varying, because I am considering a different kind of things" (p. 28). Thus he argues that if the very same feature of a thing exemplifies distinct qualities, then the concepts of those qualities cannot be acquired by singling out that feature. The very same size (of a particular elephant) may exemplify both smallness (it is a small elephant) and bigness (it is a big animal); nor can its smallness be distinguished from its bigness by careful attention. Even for sensory qualities, which have afforded abstractionists their most familiar examples, the same point holds: the concept "scarlet" is distinct from the concept "red," yet the very same feature of a scarlet coat is both its scarletness and its redness. Abstractionism yields even less plausible accounts of logical, mathematical, and relational concepts; of the concept of an individual substance it notoriously can make nothing whatever.

Here an abstractionist might object that if Geach were right in believing that the very same feature of reality could exemplify distinct or even opposite qualities, then the conceptual way of thinking must distort reality. In reply, Geach invokes Aquinas: *Alius est enim modus intellectus in intelligendo quam rei in essendo.* "When our understanding understands things that are simple, it may understand them in its own complex fashion without understanding them *to be* complex" (p. 40). Concepts are not given to us by things: "the mind *makes* concepts, and this concept-formation and the subsequent use of the concepts formed never is a mere recognition or finding" (p. 40).

Concepts are capacities which are exercised in making judgments although they may also be exercised in putting questions or giving commands or in other ways; and in Geach's view they are characteristically exercised in words. In any language in which verbs of stating (e.g., "James says . . .") and judging (e.g. "James thinks . . .") are both used with a clause in *oratio obliqua* (symbolized here by *p*), if a sentence of the form "James says *p*" reports a statement, then a sentence of the form "James thinks *p*" reports a judgment. Nobody who understands both the expression "James thinks . . ." and the gist of "*p*" can fail to understand the sentence "James thinks *p*," whatever the gist of "*p*" may be. Bertrand Russell's multiple relation theory of judgment is incompatible with this conclusion. According to it, the sentence "James thinks that *a* R *b*" may be analyzed as "James, *a*, R, and *b* stand in a four-termed 'judging' relation"; if James had been reported

as thinking that *Fa*, the relation would have been three-termed; if that R_2 (*a*, *b*, *c*), it would have been five-termed. If this theory were true, the sense of "thinks" would vary according to the logical complexity of what is reported to be thought, so that one might understand both "James thinks that *Fa*" and the gist of "that *a* R *b*," yet not understand "James thinks that *a* R *b*."

Beginning with Russell's defective theory Geach develops, and finally combines, two theories of judgment. The first ingeniously adapts Russell's theory, but satisfies the condition that the judging relation should not vary with the logical complexity of what is judged. Geach confesses that many logicians would object to his employment of a nonextensional operator (p. 53), but legitimately denies that any extensional alternative yet contrived has comparable power. The second of Geach's theories is that the concept of judging is irreducibly analogical and is formed analogically from the concept of stating. To judge is to say something in the heart—characteristically, but not necessarily, in words. Geach flatly denies the familiar objection that a concept can only be described as analogical by contrast with a corresponding literal one. No literal concept is equivalent to the concept of judgment. Verbs of judging are analogical because they are equivalent to verbs of saying when these are used in analogical applications in contrast with their original literal applications (p. 76). Geach works out these analogies in terms of *oratio recta*; and in so doing he forcibly and subtly discusses quotation, synonymy, quantification, the predicate "true," and the dangers of theories like his own.

Geach's arguments are strong: even if not sound, his main conclusions are, in my opinion, nearer to the truth than any alternatives known to me. The principal debts he acknowledges are to Aquinas, Russell, and Wittgenstein; Ryle he considers an adversary. I doubt whether those who, like myself, profess and call themselves Ryleans will return the compliment. Ryle did not, as Geach charges (p. 8), "seek to depreciate" intellectualistic activities like putting thoughts into words, although in the *Concept of Mind* he did not divine how crucial is the distinction between verbal and nonverbal expressions of thought.

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PHILOSOPHICAL ANALYSIS. Its Development Between the Two World Wars. By J. O. URMSON. Oxford, The Clarendon Press, 1956. Pp. x, 203. $2.90.

This book unquestionably ought to be studied by anyone who wants in brief compass an account of the background of contemporary ordinary language analysis. Not because Urmson criticizes or expounds the methods of this philosophy, for he doesn't; but because he disinters specimen remains from Cambridge and Oxford in the period "between the two World Wars," from the publication of *Principia Mathematica* and Russell's Lowell Lectures to the scattering of articles in the later 'thirties which heralded a new philosophy, dissects them in public and therewith sets out the evolution of the new philosophy from the logical and metaphysical problems of the old. Nor is the book only an historical and expository essay; it quietly pleads a case as well. It is obvious that Urmson hopes to make the current methods of philosophy not only intelligible but genuinely attractive.

Unfortunately, he conceives his task as historian and expositor too narrowly. There is every reason why he should have nothing to say about the work of American or Continental philosophers (excluding the Vienna Circle), nor even of any local philosophers other than Russell, Wittgenstein, Wisdom, Ryle, Ayer, and a few others. But it is incredible that he should join in acknowledging Moore as "the leading exponent of the technique [of analysis]" between the Wars (p. 115) and then fail to give even one specimen of his work, nor any adequate account of his influence. (For example, he implies on page 2 that Russell, in writing *Principles* § 427, adopted extreme logical Platonism under the influence of Meinong, whereas Russell makes it quite clear in his article of 1901 from which § 427 is derived that it is G. E. Moore —and perhaps Frege whom Russell had just discovered—who influenced him; Meinong is not mentioned in such contexts until 1904, two years after *Principles* was finished.) Moore's contributions are ignored because he was neither logical atomist nor logical positivist (pp. 48, 52, 131, 148). This omission does not cripple the narrative only because Urmson views the history of philosophical analysis during this period through the brief career of logical atomism, from its foundation in the logical Platonism of 1900 (pp. 1-5) to its collapse under the impact of logical positivism in the middle 'thirties (pp. 106-129). But what began only as a perspective for the author becomes for his readers identical with Russell's objectionable dogma, that philosophical analysis *is* (or was) atomism.

If we suppose that philosophical analysis was atomism, various defects of detail in the book take on an importance they otherwise would not have. Here are two typical examples. Urmson stresses (pp. 7, 11, 16, 18, 130, 134) that "the shortest account of logical atomism that can be given is that the world has the structure of Russell's mathematical logic" (p. 6). But how does he support this? On page 6 with an irrelevant quotation from Russell's lectures on "The Philosophy of Logical Atomism" (1918) and on page 7 with an anachronistic and confusing one (since in *Principles*, Sect. 46, what Russell explored under the rubric of "philosophical grammar" is not the structure of the world, but what he came to call its "inventory," i.e., not syntax but "parts of speech"). What Urmson should have done on page 6 is to give the quotation from the atomism lectures the lesser part of which he eventually supplies on page 192, or perhaps the eleventh from the last paragraph of Russell's "Logical Atomism" (1924). Again, despite the fact that Russell's theory of descriptions was the paradigm of analysis during the hey-day of atomism, Urmson never quotes Russell (as if he were too careless or obscure) but supplies paraphrases of his own and advises the reader to seek the symbolic details in P. F. Strawson's *Logical Theory*. Now Russell rendered "The king of France is bald" by means of the paraphrase, for example, "One and only one thing is king of France and it is bald," which yields" $(\exists x)$ [(x is king of France $\cdot$ x is bald) $\cdot$ (y) (y is king of France $\cdot \supset \cdot y = x$)]" or "$(\exists y)$ [(y is bald $\cdot$ (x) (x is king of France $\cdot \supset \cdot y = x$)]." But Urmson's paraphrase, " 'There is something which is both King of France and bald, and only one such thing' " (pp. 24, 29, 39, 116) yields rather "$(\exists x)$ [(x is king of France $\cdot$ x is bald) $\cdot$ (y) (y is king of France $\cdot$ y is bald $\cdot \supset \cdot$ $y = x$)]," which allows of an indefinite number of French kings none of whom is bald save one. As for Strawson's paradigm, it is at best redundant.[1]

Wittgenstein, "the basic source for the anti-metaphysical attack on atomism, as he is for atomism itself" (p. 103), is as he must be the hero of this book. Some readers will be disappointed that nothing is said about his insights during the early thirties upon which contemporary analysis is largely based (cf. p. 179; and see the documentary series by Moore in *Mind*, LXIII, 1954). Instead, these insights are illustrated in the work of those he influenced (John Wisdom, C. L. Stevenson), while Wittgenstein himself dominates this book only as

[1] See Russell, *Mind*, XIV (1905), 482, and *Principia Mathematica*, I, p. 68; also Quine, *Methods* (2nd ed.), p. 222, and *Mind*, LXII (1953), 451.

the author of the formidable *Tractatus*. Moreover, Urmson's account of the *Tractatus* professes to be faithful only to the way it was (mis)read by the atomists and their friends (pp. ix f.). The discussion of *Tractatus* 5.54 ff. (pp. 72 f., 133 f.) shows how casually he carries out his aim, and how far short of understanding the *Tractatus* he is content to leave his readers. We are told, "Once again Wittgenstein anticipated this difficulty," that of preserving the thesis of extensionality (5.54) in the face of "intensional functions" in ordinary language (5.541), such as "A believes that *p*." But it is clear from *Principia Mathematica* (1st ed.), I, 8, 73-74, that Russell left no difficulty for extensionalists to anticipate but a problem for them to solve. (Urmson may have been misled by Russell's remark in the Atomism lectures, IV, § 3, end of para. 1.) Of Wittgenstein's solution (5.542 ff.), Urmson says it "was not understood fully, and in so far as it was understood it was not accepted." He cites Wisdom as rejecting it, but there is not much reason to believe from what Wisdom wrote in "Logical Constructions" (1931-1933) that he understood it; while despite what Urmson implies, Ramsey (*Foundations*, pp. 274 ff.) and Russell (*Tractatus*, pp. 19 ff.), in so far as they did understand it, accepted it (whereas no one else save Carnap in the *Aufbau* wrote on the matter at all). Indeed, we can infer as much from Urmson himself, for "the behavioristic doctrine that . . . not the proposition '*p*' but the words '*p*' would be elements in the fact," ascribed to Russell, is but another way of stating the view ascribed to Wittgenstein himself, that in 5.542 he holds that "Jones's belief *is* the set of words he utters." It is also unfair for Urmson to insist that the problem of intensional functions remained "a running sore" for atomism, but to fail to mention the styptic inspired by 5.542 which Russell contrived to apply in 1925, in *Principia Mathematica* (2nd ed.), I, xiv, 659 ff. Nor have we come to understand 5.542 itself. For Urmson never so much as hints how Wittgenstein's schema, " '*p*' says *p*," with its "behaviorism" (cf. 5.5421) and what Urmson calls an application of the use-mention distinction to "*p*," could be thought and was thought (by Wittgenstein, or Russell, or someone) to *save* extensionalism, that is, how this schema could be thought to be or to yield a truth-function.

These defects of conception and execution in Urmson's book detract from but do not ruin its usefulness in the service of its task: to rationalize contemporary analytic philosophy by providing a brief, intensive survey of its antecedents in those "great, dateless works of philosophy" (p. 200) by Russell, Wittgenstein, and Wisdom which constitute the interlude of logical atomism.

Errata are too numerous to mention, save one: on page 132, line 15, interchange "true" and "false."

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SCIENCE AND THE HUMAN IMAGINATION. By MARY B. HESSE. New York, Philosophical Library, 1955. Pp. 171. $3.75.

". . . We need to recover in some sense the idea of science as the handmaid of theology, or at least the handmaid of the religious life" (p. 27).

It is to persuade her reader to accept this claim that Dr. Hesse has written her book. Her persuasions first take the form of a survey of the history of the physical sciences. The latter half of the book consists in a critique of certain ideas concerning the nature of scientific theory. How the historical and logical parts of Dr. Hesse's book hang together with her major claim is not always clear.

Apparently she is upset by the fact that science and Christianity seem to have settled for a peaceful but uneasy separation. The divorce, however, is completely Victorian, both in its genesis and in its mood. To make this point, Dr. Hesse seeks two apologetic victories. The first skirmish, as we have said, is fought on the battleground of the history of science. There Dr. Hesse contends that really to understand the background of the scientific revolution we must realize that the great scientists were themselves indebted to the Christian tradition for their new view of the world. Thus their approach to nature must be regarded as a fulfillment of the Christian attitude rather than a rejection of it. Because of their faith in the creator of the universe, men like Cusa, Oresme, Copernicus, Rheticus, Brahe, Bruno, Kepler, and Galileo were inspired to inquire after the underlying scientific patterns of the divine plan. Without the former we should apparently never have had the latter.

The second encounter which Dr. Hesse seeks is with those philosophers who regard scientific theories as being purely descriptive or purely operational accounts of natural phenomena. After some scrutiny of these two ways of analyzing the logic of scientific theory—and Dr. Hesse does strike at weak spots in their armor—she brings on her own account of the matter. Scientific theories are fundamentally analogical. The essence of a theory is not simply to describe what we observe, nor just to give an operational account of a particular subject

matter; it is, Dr. Hesse argues, to stress analogies between the phenomena before us and other subject matters with which we are more familiar.

I will comment under three headings on the main divisions of Dr. Hesse's argument: her survey of the genesis of early modern science, the story about the essentially analogical nature of scientific theories, and finally the overarching question of the relations between scientific knowledge and Christian beliefs, particularly as Dr. Hesse raises this question—all this must be at least cursorily examined.

Is it true that the great scientific thinkers of the fifteenth, sixteenth, and seventeenth centuries were driven on in their inquiries by a basically religious desire to discover the details of God's divine plan? Can we ever know the answer to this? I doubt it. My doubts consist not so much in a suspicion that we shall probably never find enough old textual material relevant to Dr. Hesse's claim one way or the other, but rather in a feeling that we shall never get the claim itself to "stand still" long enough for a searching inquiry. Each of the natural philosophers mentioned above did, by propounding his own theories, come into serious conflict with the church of which each of them counted himself a member. Galileo had to recant. Kepler had not a few scrapes with the ecclesiastical dignitaries of his several principalities. Bruno's fate needs no reminder. That the doctrine contained in Copernicus' great work *De revolutionibus orbium coelestium* was heretical was so obvious to its editor-publisher that a disarming preface was posthumously slipped into the work, the better to avoid papal censure. And Cusa and Oresme often fell afoul of the strictures of their superiors. So if the work of these men is correctly to be assessed as *independent* attempts to learn God's plan, then their elevated inquiries must have been extra-institutional. Their manner of procedure must be thought to transcend the rigorous religious codes of their more orthodox church leaders. But this move gives the clue to how Dr. Hesse's claim can slip off the logical questioning hook time after time. Because if it can be claimed that a scientist X really is inquiring into natural phenomena for religious motives—despite the fact that he is in his lifetime called a "heretic"—then even the discovery of a statement by the scientist himself to the effect that his motivation is in no way religious but rather purely aesthetic, or merely mechanical, or just the result of animal curiosity—indeed, even an atheistic testament in X's own hand—all this could be still met with the claim that *really* the inquiry is still religious, despite the studied iconoclasms of X himself. The claim which has slipped onto this path can never be refuted

because what is or is not going to count as religious motivation for a scientific inquiry is never clearly set out, either by Dr. Hesse or by other writers who have maintained similar positions. Thus it is possible to take a comprehensive look at even the most antitheistic thinkers—for example, T. H. Huxley, Bertrand Russell, Albert Einstein, Werner Heisenberg, Max Born—and to say such vague things as that their lifework has a kind of religious structure about it, or seeks to deal with the totality of a set of problems in an almost religious way. This vague claim cannot be refuted, and so it cannot be established. And if it cannot be established then it is not right to say, as Dr. Hesse says, that it is true. To say this is not to say that the claim is false, but only to suggest that a lot more has to be done to establish it than Dr. Hesse has done.

Concerning the fundamentally analogical nature of scientific theory Dr. Hesse's story is even more difficult to follow, because the sorts of things which she has chosen to call "analogies" would be quite happily characterized by other philosophers as explanatory models, theoretical interpretations, or even *Gedankenexperimente*. Why she wants to call all these things "analogies" seems to be because she wants to stress the continuity between ancient and modern times in terms of the medieval doctrine of the analogy of being. As if there were a single, integrated doctrine of this kind! But again, what Dr. Hesse ought to have considered is just exactly what kind of argument she would be having with someone who rejected her account of the situation as false. Would she and her opponent be arguing empirically about the facts, that is, what actually happens in scientific theorizing; would they be arguing qualitatively about the best way to characterize these facts; or would they be arguing pragmatically about the heuristic advantages of adopting one point of view as opposed to another? If Dr. Hesse isn't clear about which of these things she is doing, it is difficult for her reader to be clear.

In passing, at this point, I cannot but refer to the way in which Dr. Hesse describes the uncertainty principle (pp. 75, 82). By stressing almost to the breaking point the *analogy* of the super-microscope which uses γ ray photons to illuminate (and perturb!) a particular electron, Dr. Hesse makes it sound as if this kind of analogical illustration came first, and that *then* the noncommutative algebra which distinguishes modern quantum theory was invoked as a formal notation for encompassing the main ideas of this leading analogy. This is, of course, just back to front. Experiments, not analogies, came first: the black-body radiation, the Brownian movement, the photoelectric effect,

the Zeeman effect, the Compton effect, the Laue phenomenon, and so forth. These were the things for which a totally new theory was required. And the new theory has as an essential feature of its logic the noncommutative algebra in which it is expressed. It is to give this fundamental idea some intelligibility in popular lectures and books that the super-microscope analogy was advocated for the first time by Bohr and Heisenberg. The theory had been working brilliantly for three years before anyone had the leisure to look for analogies. Dr. Hesse's order of exposition on this point is misleading. But it is misleading in just the way one would expect such an account to be misleading when ruled over by an expansive idea of the sort Dr. Hesse is advocating.

Generally speaking, it is difficult to see what Dr. Hesse thinks she will gain by forcing science and Christianity to live again in the same house, even when the freedom which resulted from their separation has proved so advantageous to both during the last hundred years. Some great scientists are Christians, so scientific knowledge cannot by itself be logically incompatible with Christian beliefs. And is not this point connected with the admission of both logicians and theologians that the claims made by religious statements are not of the same logical type as those made in scientific statements? Christians today can formulate their beliefs in such a way as to keep them out of the range of attack by any scientific facts. As such they do not conflict with science and hence they cannot be shot down by science. But neither can they be supported by science, by the other edge of the same argument. Anyone who seeks to show that the claims of the Christian *are* supported by scientific facts, as Dr. Hesse certainly seems to want to do, must expose the whole body of his doctrine to possible refutation at the hands of science. One cannot have it both ways.

Dr. Hesse, however, cannot see what kind of content a religious statement can have if it is denied ordinary empirical content. Neither can I. It must be agreed, then, that the resolution of the perplexity (that is, the analysis of the meaning of religious statements) is extraordinarily difficult. But Dr. Hesse does not treat it as nearly difficult enough; she simply, but subtly, invests religious statements with a kind of empirical content, and in such a way that the findings of science can be said to support those statements. But this is just as uncritical as the argument which lays it down that, since religious statements have *no* empirical content and are not logical truths, they are therefore altogether lacking in any content whatever. Again, however, Dr. Hesse has not seriously asked herself what kind of discussion she would be having with an individual who either (1) claimed that the facts of science

showed Christianity in general to be false or (2) claimed that statements of Christianity, although they have a *kind* of empirical content, do not have that kind of content which can be supported by scientific findings. Her own experience with the history of science ought to show her that the theologian has much more to fear from the scientist than hopefully to expect from him. The believer is safest when he gets off the factual battlefield and climbs to the empyrean heights of another level of discourse.

Of misprints, only the following two need be noted: "Denfied" (p. 54) I suppose should be "defined," and the Relativity Mass Equation (p. 73) appears without the exponential $-1/2$.

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FROM THE CLOSED WORLD TO THE INFINITE UNIVERSE. By ALEXANDRE KOYRÉ. Baltimore, Johns Hopkins Press, 1957. Pp. xii, 313. $5.00.

M. Koyré will be known to many readers of *The Philosophical Review* for his writings on Descartes and Galileo, and notable for his *Études Galiléennes* (1939), a masterly study of the historical origins of Galileo's work on kinematics. This latest book is a much-expanded version of his Hideyo Noguchi lecture given at the Johns Hopkins Institute of the History of Medicine in December, 1953, and its aim is to trace out a similar historical sequence—the change in European conceptions of the heavens and in ideas about Space, between 1440 and 1715.

Koyré takes as his starting point those philosophers "who first rejected the mediaeval cosmos-conception and to whom . . . is ascribed the merit, or the crime, of having asserted the infinity of the universe," *viz.*, Nicholas of Cusa and Marcellus Palingenius. Neither of them, in his opinion, really went as far as asserting the infinitude of the cosmos; but Nicholas is important for recognizing the paradoxes associated with the notion of a spherical geocentric universe, and for rejecting the traditional associations between the structure of the heavens and the divine hierarchy. Copernicus and Kepler in their turn are shown rejecting the idea of an infinite universe (Kepler largely for religious reasons), in contrast to Giordano Bruno, who for the first time expels completely the theological Heaven from our picture of the astronomical heavens and expands these without limit. Galileo next arrives with his

telescope and thereby increases enormously the dimensions of the visible world, though without ever committing himself to any very explicit cosmological doctrine. It is left to Descartes, and after him to Henry More, to build up the picture of the universe which is to serve as a backcloth for the Newtonian revolution in celestial mechanics: that of "an indeterminately vast but finite world merged in an infinite space."

We are now halfway through the book, and at this point the focus changes: throughout the second and more detailed half, astronomical questions are put aside for issues of a more purely metaphysical and theological kind: "What are Space and Time? And how are they related to God?" These questions, and related ones about Matter, Ether, Spirit, and the Divine Action, occupy from now on the center of the stage. Newton is the chief figure in the drama, and the discussion is in effect a long commentary on Newton's conceptions of Space and Time: the views of Bentley, Raphson (a curious figure to modern eyes), Berkeley, and Leibniz are analyzed for their reactions to Newton, and the book culminates in a 38-page exposition of the Leibniz-Clarke correspondence. If Space is infinite, eternal, incorporeal and immutable, are we not (Raphson asks) obliged to see in it one aspect of the Deity? Or are the consequences of such a conception of Space so obnoxious (as Leibniz and Berkeley retort) as to call in doubt the foundations of the Newtonian theory itself? It is on this elevated plane that the rest of the controversy is presented, and in this part of the book that Koyré himself appears intellectually to be most engaged.

As a source book and work of reference for those interested in this phase of thought, the book will be indispensable. The authors discussed are fairly fully quoted, and the exposition of their views is generally balanced and fair. So much has recently been said in general terms about the influence of Henry More on Newton that it is particularly useful to have his writings—notably his correspondence with Descartes —analyzed and presented as clearly as they are here. All the same the book proves surprisingly unilluminating. This is partly a consequence of its literary defects: it bears too many signs of its origins as a lecture and needed more re-editing. But certain substantial reservations are also necessary; and these are worth discussing here, since they involve our whole method of inquiry in the history of ideas. For Koyré carries a proper neutrality so far as to sacrifice quite needlessly the chance of clearing up ambiguities and confusions in his chosen authors, although these often led to cross-purposes at the time they originally wrote and hinder our understanding in retrospect. (An obvious example is

Leibniz's and Descartes' notorious conflation in one single motto—"No Space without Matter"—of two very different and independent doctrines: (i) that in the absence of a frame of reference many spatial propositions must lack application to the world, and (ii) that there cannot be a vacuum. Even this muddle Koyré lets pass without adverse comment.) Also, he concentrates too much on his authors' forms of words, without allowing himself to inquire what exactly, for each man, that form of words amounted to in practice.

Granted that it is "metaphysical foundations" Koyré is discussing, still one must ask what sort of a building these foundations are being used to support. A single form of words in three different mouths may serve as an expression of religious devotion, as a thesis in physics, or as a piece of abstract philosophizing: in each case it will have different implications, and will surely require discussing in different ways. (This is the sting in Pascal's claim that Descartes' God is not the Christian God, but a mere *Dieu philosophique*—a remark Koyré counters rather lamely with the reply, "What is the God of a philosopher supposed to be if not a philosophical God?") For this reason, if for no others, it would be necessary to protest when Koyré actually identifies Newton's views on Space with Henry More's. Perhaps, even in his physics, Newton did find More's doctrines suggestive, and he may in his religion have remained much of More's opinion; yet to Newton, the author of the *Principia*, "absolute, true, mathematical space" appeared indispensable for reasons of dynamical theory and astronomical fact, and the significance of the notion for him must be judged in the first place with this in mind. In fact there are, even in words, important differences between Newton and More. More and Raphson go to the length of identifying with the Deity a reified Space, the "substance of spatial attributes," whose "real existence" they both insist on. But Newton continually avoids asserting the real existence of a "space-substance," and again and again qualifies his statements about Space with guarding phrases like "as it were" or "if I may be allowed the phrase," showing how well aware he is that the term is a tricky one. Even in the pious afterthoughts added to later editions of the *Principia* as a defense against accusations that his theory was atheistic in tendency, he carefully denied having said that God *is* Space, and instead substituted the less committal statement that "by existing always and everywhere, He *constitutes* duration and space."

For Newton the physicist spatial magnitudes are "absolute" when treated as mathematical variables within his theory, and "relative" when we "compare" these dynamical variables "with the phenomena

of Nature," and refer them to particular "sensible" frames of reference. In any axiomatic theory this distinction is an indispensable one. Further, only certain "sensible" frames of reference will serve for the application of Newton's theory (those known nowadays as "inertial frames") and the degree of "truth" in any "relative, apparent, sensible" measure of spatial magnitudes depends on how closely the frame of reference employed approximates to an inertial frame. It would be too much to claim that Newton always saw clearly the precise force of this point; yet so much as is here stated was and remains sound physics, as Koyré himself acknowledges. As physics, however, it is not dependent on any doctrines in metaphysical theology—it brings in no dubious "space-substance" in which all spatial attributes are to "inhere"—so that in one crucial respect at least Newton's hesitancy in writing about "Space" was justified and his views must be distinguished from those of Henry More.

Is it legitimate even in retrospect to distinguish in this way between Newton's physics and his theology? Koyré might defend himself by arguing that it is not. This raises a central question of method for the history of ideas. A new and fruitful scientific conception is often hatched from an egg of a very different sort, and for some time fragments of its original shell may (so to say) adhere to its plumage. It is important for the historian of ideas to identify correctly the origins of our scientific notions, even though they may from this distance sometimes appear bizarre. (This is the strong part of Koyré's case.) But we must not become so preoccupied with the fragments of shell as to lose sight of the chick, or fail to recognize it for what it is. Only if one does just that can one call Newton's absolute time and absolute space "the selfsame concepts for which Henry More fought his long-drawn-out and relentless battle against Descartes." For, after all, in Newton's hands these concepts became essential parts of a fruitful axiomatic theory of dynamics—which they never were for More—and their explanatory value (such as it is) is as independent of their supposed metaphysical foundations as it is of their actual historical origins. Indeed, if we look at Newton in the first place as a physicist, his few excursions into metaphysics will appear to us not as the "foundations" of his work but rather as a kind of baroque excrescences, without structural importance for the theory itself.

To sum up: there are two complementary ways of tackling the history of scientific ideas. One of these (Koyré's) proceeds in an aesthetic rather than a critical way—so that, having satisfied himself of an author's consistency, he can say "Kepler (or Henry More or whoever)

is perfectly right," even though what has been said may not be clear, or free from ambiguity, or scientifically tenable, or theologically orthodox. Of all that can be achieved using this method, Koyré is a notable master. But is this all that needs to be done? Is it enough to reconstruct the ideas of the past, like antique vases, from their discovered fragments, and leave it at that? Surely we are entitled also to pause from time to time and ask, in a more critical spirit, whether they ever held water?

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AFTER UTOPIA: THE DECLINE OF POLITICAL FAITH. By JUDITH N. SHKLAR. Princeton, Princeton University Press, 1957. Pp. xii, 309. $5.00.

This book is the outgrowth of a doctoral dissertation to which the American Political Science Association in 1956 awarded its Birkhead Prize. Its main thesis is that political philosophy has declined continuously from the Enlightenment under the impact of criticisms, romantic and Christian, directed against it. The Enlightenment was optimistic, intellectualist, utopian, and radical, imbued with the "idea that man can do with himself and his society whatever he wishes" (p. 5). These ideas were undermined by the romantic revolt, first implicitly the search for a basis for a new literature, today in existentialism, "a romanticism deprived of all its positive aspirations, wallowing in its own futility" (p. 108). Parallel with romanticism is "Christian Fatalism" (ch. v), the belief that religious faith must be the support of any culture coupled with the awareness that Christianity is not, and has not been for centuries, the main determinant of European culture. What romanticism and Christian Fatalism have in common is a sense of social alienation, of hopelessness and despair and foreboding, issuing in political impotence. For these qualities of mind have extended to all political and social thinking; the result has been "the passing of political philosophy" (p. 25). Conservatism began with Burke as "a philosophy of negation" (p. 221); the liberalism of the nineteenth century was "an intellectualism devoid of optimism" (p. 227); the conservative liberalism of the present is "only another expression of social fatalism" (p. 235); the Fabian socialists accepted the "general historical materialism so popular in their day" (p. 257); and the socialism of the present "resembles nineteenth century liberalism most

in its loss of confidence" (p. 266). For the present only criticism is possible: "we know too little to feel justified in social despair" but "we know too much to fall into even the slightest utopianism" (p. 271). "A reasoned skepticism is consequently the sanest attitude for the present" (pp. 272 f.).

This bare summary of Mrs. Shklar's negative and rather wholesale criticism of present-day political and social thought is not altogether a fair representation of her book. It does not represent the thoroughness or penetration of her criticism, the very wide spread of her knowledge, the excellence of her writing, or the generosity and humanity of feeling that underlies her desire for a political philosophy that remains optimistic in spite of being fully informed. These qualities her book has. At the same time and perhaps because of his own "reasoned skepticism" the reviewer cannot help doubting whether she is not asking more of philosophy than it is able to provide. After all her indictment of romanticism and Christian Fatalism is mainly psychological. Their bad logic or their lack of knowledge is not the cause of their pessimism but the result of social alienation, a kind of pathology of society which extends to a distortion of their ability to think straight. Similarly the optimism of the Enlightenment did not follow from the soundness of its philosophy, which was often superficial and ill-informed. On the score at least of Anglo-American philosophy the thinker who did more than the romanticists to wreck the Enlightenment was David Hume, and Hume was neither socially alienated nor emotionally disturbed. There is unquestionably a psychological correlation between emotional disturbance and crooked thinking, but the one is a psychiatric and the other a logical problem.

Another phase of Mrs. Shklar's diagnosis of political philosophy's decline from the Enlightenment which seems to the reviewer strange or even paradoxical occurs in her occasional references (for she nowhere discusses it) to Marxism. On its face one might have thought that Marxism has been pretty close to what she wishes a political philosophy to be, except of course for its having issued in totalitarianism. One suspects indeed that what she wants is a counterirritant. Marxism has been utopian and radical; it has been markedly intellectualist; it has believed that man could make his own history, and indeed Engels asserted that it was the only philosophy which enabled him to do this. In practice it has been the boldest and most unscrupulous attempt not only to make history but to remake society and human nature to fit its ideas about history. To be sure, in so doing it became brutal, cynical, and immoral, and Mrs. Shklar's

revulsion is understandable. But her diagnosis is clearly wrong. Marx, she says, "is surely the originator of most current culture-fatalism" (p. 257). But curiously, the culture-fatalism which is supposed to have corrupted romanticism and devitalized liberalism and socialism did not infect Marxism, which was the principal exponent of historical determinism. For the severest critic of Marxism can hardly accuse it of despair, loss of confidence, or an inability to construct "grand designs for the political future of mankind." And almost certainly any Marxist will assert that it is his understanding of the "inevitability" of history that saves him from such weaknesses. The mere fact that a large percentage of his predictions never came off discouraged Marx as little as it discourages his followers. For prediction had almost nothing to do with what "inevitability" meant to Marxists. What I think Mrs. Shklar has not realized is that when she lumps together all meanings of "determinism" as fatalist she is performing a stupendous oversimplification. A philosophical analysis can unscramble these meanings; it will probably not convert Marxists from totalitarianism to democracy.

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DAS WAHRHEITSPROBLEM UND DIE IDEE DER SEMANTIK. Eine Einführung in die Theorien von A. Tarski und R. Carnap. By WOLFGANG STEGMÜLLER. Wien, Springer-Verlag, 1957. Pp. x, 328. $7.85.

The author has high hopes for the philosophical value of "pure semantics" and accordingly offers his elaborate book as a contribution to philosophical investigations. Much of the text is a careful exposition of Tarski's "semantic definition of truth" and Carnap's views in *Introduction to Semantics* and *Meaning and Necessity*. Objections and criticisms are discussed at length. The author is familiar with the literature and is thoroughly competent in the handling of technical details.

A lengthy paraphrase of this sort would have some point if the original texts were carelessly written; but Tarski's classical papers on the concept of truth are models of superficial lucidity, and Carnap has never shirked the task of detailing the symbols and logical rules he is using. In spite of the accuracy and good organization of Stegmüller's account, those interested in the subject would still do well to read the original texts.

Many philosophers are still at a loss to assess the *philosophical* significance of the "semantic definition of truth" and allied constructions in "pure semantics." Treat what Tarski is doing as mathematics, and everything is clear enough (the "superficial lucidity" of semantics). A recursive definition of "true in L" permits us to interpret sentences about the truth of complex sentences in L (conjunctions, sentences with quantifiers, and so on) as sentences about the truth of atomic sentences in L; and a sentence about the truth of an atomic sentence of L is required to be equivalent to that sentence of L itself. In all this, nothing of importance would be changed if the expression "true in L" were replaced by "eurt in L," with "eurt" having no meaning other than that supplied by its definition. Tarski's technical discoveries about undecidability—the most interesting aspect of his work for a mathematical logician—would still follow. Philosophical perplexity begins when philosophical claims are made on behalf of the mathematical construction—when it is said to constitute a "rational reconstruction" of the ordinary concept of truth, or to be all that can properly be salvaged of the correspondence theory of truth. It is natural to object that "true in English" is a barbarous solecism; that in ordinary language "true" is not a predicate of sentences (cf. Y. Bar-Hillel in *Analysis*, October 1957); and that "It is true that snow is white if and only if snow is white" is not a contingent statement.

Such perplexities have by now been thoroughly canvassed. Stegmüller is aware of them but is not impressed. I think it is because he is committed to the assumptions that lend contemporary "semantics" its characteristic flavor. He echoes the supposed commonplace that ordinary language is self-contradictory and hence unfit for rigorous philosophical employment; he never questions the simplified convention for quotation marks that treats "horse" as a proper name of a word (though Tarski sees the point); and he is too ready to treat the question of whether the predicate "true" applies to sentences as one of mere technical convenience. (He misses the point of Strawson's distinction between sentences and statements, mistakenly regarding the latter as utterances, that is, ignoring the "non-episodic" sense of "statement" that is needed.)

In general Stegmüller's treatment of criticisms (by Wittgenstein, Quine, Goodman, and others) is less satisfactory than his exposition of the views he admires. The hundred pages devoted to objections against "pure semantics" are disappointing. It is not that Stegmüller is unfair to his opponents; but somehow the idea that made the original paper exciting or promising is muffled. By the time we have been

judiciously informed that much can be said on both sides, that pure semantics deals with artificial languages and must not be expected to cope with the irregularities of ordinary language, and that "formal reconstruction" is compatible with other approaches to philosophy, fatigue supervenes. "Tolerance" can easily become boring.

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